A Study Of Texas Youth Livestock Exhibitors Knowledge Within The Constructs Of The Quality Counts Assessment

by

J. D. Ragland, B.S., M. S.

Dissertation

In

Doctorate Agriculture Education

Submitted to the Graduate Faculty
of Texas Tech University in
Partial Fulfillment of
the Requirements for
the Degree of

DOCTOR OF EDUCATION

Approved

Dr. Steven Fraze
Chair of Committee

Dr. John Rayfield

Dr. Todd Brashears

Dr. Jeff Ripley

Dominick Casadonte
Interim Dean of the Graduate School

August, 2013

ACKNOWLEDGMENTS

This degree is a proud product of dedication, hard work, love and support of many. All glory goes to my Lord Jesus Christ, answering countless prayers asking for his guidance and strength to get me through. I have been truly blessed. I want to dedicate this degree to my wife Angela and son Brady.

Angela provided me with the encouragement, love and confidence in me to pursue this lifelong dream. I know at times it wasn't easy living with me during this journey and I probably blamed you for many unnecessary issues. For that I apologize. You are the love of my life and I want to thank you for being such a wonderful supportive wife.

To my son Brady, who's a young college student at Texas Tech who I love and am so proud of whom always provided his older college student dad with his positive encouragement and "you can do it dad" attitude! Thanks for the love and continual motivation.

My parents, Ronnie and Kathleen Ragland who instilled upon me at an early age, "you can do anything you put your mind to." They taught me the true value of dedication and hard work and to set goals and work hard until you achieve them. I can never sufficiently thank you enough for everything you've done for me. Thanks for your love, support and always being there.

I also want to thank my committee, Dr. Steve Fraze, Dr. John Rayfield, Dr. Todd Brashears and Dr. Jeff Ripley. I realize with Doc@Distance students it is difficult to meet as a committee and coordinate all needed requirements for completing this degree. Each of you were always willing to meet with me via conference call or one on one and

provide the needed guidance I needed to keep me on track. Thanks for your continual support and patience. I could not have done it without you.

Big thanks to both Texas Tech and Texas A&M Universities for providing the Doc@Distance Program. I'm 49 years old and have been employed with the Texas AgriLife Extension Service serving as a County Extension Agent for Agriculture for the past 26 years. This occupation requires long daily hours, most nights full with meetings and weekends jammed packed with a variety of 4-H activities leaving virtually no extra time. Therefore this unique distance education degree program allowed me the opportunity to continue my education that otherwise would not have been possible and honestly was the only achievable way for me.

Just as importantly, I'd like to thank my Doc@Distance classmates, "The Salty Six": Donald Kelm, Stephenville, Texas; Kelli Lehman, Vernon, Texas; Shane McLellan, Waco, Texas; Alanna Neely, Murfreesboro Tennessee and Aimee Sandifeer, Overton, Texas lending strong support and encouraging one another to hang in there through tough times where each one of us didn't think we would make it. It's been a long four and half years. You guys are my buddies!

No one said it was going to be easy, I guess if it was everyone would do it. With dedication, determination and perseverance I'm living proof you can never be too old to continue your education and achieve a lifelong goal! Thanks to everyone for making my dream become reality!

ABSTRACT

A Study Of Texas Youth Livestock Exhibitors Knowledge Within The Constructs Of The Quality Counts Assessment. (August 2013) J. D. Ragland, B.S.,

M. S. Chairman of Advisory Committee: Dr. Steve Fraze.

The purpose of this study was to examine the effectiveness of the current Quality Counts program and assessment. This on-line training and assessment is a required program of completion for all youth exhibiting livestock at all major livestock shows in Texas. The studies additional purposes was to evaluate assessment results of participants within their respected age groups and club affiliation, and to identify their relationships of the four program objectives as well as the three research objectives outlined for this study to determine where curriculum improvements maybe needed. It was concluded that the Quality Counts program needs revision to be a more effective tool for youth exhibiting livestock.

Table of Contents

ACKNOWLEDGMENTS ..... **ii**

ABSTRACT ..... **iv**

CHAPTER 1 ..... **1**
INTRODUCTION 1
Background 1
Statement of the Problem 2
Purpose of the Study 2
Research Objectives 4
Limitations of the Study 5
Need for the Study 5
Definition of Terms 6
Summary 7

CHAPTER II **8**
REVIEW OF LITERATURE 8
Purpose and Objectives 8
Cooperative Extension 8
A Brief History of 4-H 10
A Brief History of FFA 11
Extension Program Development 12
Quality Counts Program 14
Livestock Exhibition 15
Character Education 16
Life Skills Gained From Livestock Projects 18
Food Quality and Safety Standards 18

CHAPTER III **21**
METHODS AND PROCEDURES 21
Purpose and Objectives 21
Research Design 21
Assessment Procedure 22
Population and Sample 23
Instrument 24
Institutional Review Board 25
Collection of Data 26
Analysis of Data 26

CHAPTER IV **29**
RESULTS AND DISCUSSION 29
Purpose and Objectives 29
Findings for Research Objective One 29
Findings for Research Objective Two 30
Findings for Objective Objective Three 31

CHAPTER V **54**
SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS 54
Purpose and Objectives 54
Limitations of the Study 54
Research Design 55

Population and Sample 55
Instrument 56
Institutional Review Board 57
Collection of Data 57
Analysis of Data 57
Summary of Findings and Conclusions 58
Research Objective One 58
Research Objective Two 58
Research Objective Three 59
Recommendations for Quality Counts Program Development 62
Recommendations for Future Study 63
LIST OF TABLES……...30
REFRENCES 65
APPENDIX A 68
QUALITY COUNTS ASSESSTMENT INSTRUMENT 68
APPENDIX B 77
INSTITUTIONAL REVIEW BOARD APPROVAL 77
APPENDIX C 79
SENIOR ASSESSMENT QUESTIONS 79

LIST OF TABLES

4.1 Characteristics of 4-H and FFA Members……...30
4.2 Organization and Age Division……...31
4.3 Descriptive Data of Senior Quality Counts Assessement Related
to Program Objectives……..33
4.4 Descriptive Data of Senior Quality Counts Assessment Related
to Program Objective One…….....34
4.5 Descriptive Data of Senior Quality Counts Assessment Related
to Program Objective Two……...……....41
4.6 Descriptive Data of Senior Quality Counts Assessment Related
to Program ObjectiveThree……...……...42
4.7 Descriptive Data of Senior Quality Counts Assessment Related
to Program Objective Four……...……43
4.8 Descriptive Data of Senior Quality Counts Assessment Sorted by Average……...…44

CHAPTER 1

INTRODUCTION

Background

The history of youth livestock project programs in Texas dates back to 1910 when the first beef and pig clubs were organized in Coleman County Texas (History of 4-H). Texas has the largest number of 4-H and FFA livestock projects in the nation. According to Texas AgriLife Extension, youth livestock exhibitors participate at county, district, regional and state levels (Quality Counts, 2011). County Extension Agents and agricultural science teachers in Texas spend considerable amounts of time educating and working with youth involved in the livestock program. Each year some 76,000 head of livestock are validated in Texas and are eligible for exhibition at county fairs and major livestock shows. Additionally each year the livestock showing industry has a direct impact of over 14 million pounds of red meat (Quality Counts, 2011). For decades Texas youth livestock exhibitors have received unfavorable reviews indicating that exhibitors only show their animals and have no knowledge of the livestock industry.

These disparaging comments have made it necessary for youth livestock educators to develop Quality Counts, A Texas Curriculum for Livestock Education (Quality Counts, 2011). The program was launched in 2005 with the latest program revisions occurring in 2011. The Quality Counts curriculum primarily focuses on two major components; Character Education and Livestock Quality Assurance. Within the program curriculum there are eight core concepts with the first four related to *Character Education*; 1) Six Pillars of Character, 2) Purpose of 4-H and FFA, 3) Purpose of Livestock Projects and 4) Making Decisions and Goal Setting.

The second four concepts relate to *Quality Assurance*; 1) Impact of Livestock Projects on red meat industry, 2) Responsibilities of Producing a Safe Product. 3) Medication Use/ Reading and Following Labels, and 4) Animal Care and Well-Being.

Statement of the Problem

In recent years, youth livestock exhibitors have had limited in-depth education pertaining to general animal husbandry and food quality/safety. Although livestock project participation has increased each year, the general knowledge of livestock has decreased. As a result, the Quality Counts curriculum was created to increase aptitude and test knowledge of livestock as it relates to the 4-H and FFA livestock projects. This includes demonstrating knowledge of character skills, food quality and safety standards, general animal science information, and the ability to promote the youth livestock project in a positive manner.

Although the Quality Counts curriculum has been in place for seven years the requirement for testing in order to exhibit livestock projects has only been in existence for two years (2011-12 and 2012-13) (Quality Counts, 2011). There are currently no published studies on Quality Counts curriculum or testing. Due to the fact that general livestock information is important to all exhibitors and the Quality Counts program and assessment is now a mandated requirement for all junior livestock exhibitors in Texas, it is imperative to conduct research to assess whether or not participants are achieving program objectives set forth by Quality Counts curriculum.

Purpose of the Study

The purpose of this study was to examine the effectiveness of the current Quality Counts training assessment. The completion of the assessment is required for all youth exhibiting livestock in all major livestock shows in Texas. The assessment was designed to evaluate results of participating groups and identifies relationships based on the four main research objectives

outlined in this study and to also evaluate the four program objectives to determine if curriculum improvements were needed.

The Quality Counts program was developed in 2005 (Quality Counts, 2011) in partnership by the Texas AgriLife Extension Service and the Texas Education Agency (Smith, et al., 2011). Quality Counts is a comprehensive curriculum program for all 4-H and FFA members in Texas who are involved with the youth livestock program. This educational program is designed to teach basic livestock husbandry skills along with food safety techniques and practices for not only broadening their knowledge as an exhibitor but also as a consumer.

To complete this curriculum, all youth exhibitors are required to take the corresponding Quality Counts online assessment and must pass with minimum score of 80% or higher. The Quality Counts program provides an opportunity for youth livestock exhibitors to learn and demonstrate the highest standards of both personal character and in the feeding and caring of livestock. Quality Counts is designed to teach young people the importance of displaying good character in carrying out livestock projects and in every aspect of their lives. This curriculum also helps them learn the importance of using proper livestock management practices so that food quality and safety are preserved.

With the completion of this curriculum comes the opportunity for each exhibitor to learn and demonstrate the highest standards of both personal character and in the feeding and caring of livestock. Quality Counts was designed to teach young people the importance of displaying good character in carrying out livestock projects and in every aspect of their lives. This curriculum also helps participants learn the importance of using proper livestock management practices so food quality and safety are preserved (Smith, et al., 2011).

Quality Counts was developed using the six pillars of character as outlined in the Character Counts Curriculum (Smith, et al., 2011). “Character Counts was established to promote and teach the Six Pillars of Character.” The six pillars of character are: Trustworthiness, Respect, Responsibility, Fairness, Caring and Citizenship (4-H Youth Development, 2012)

The Quality Counts program currently has four primary objectives. The first three objectives were originally developed in partnership by Texas AgriLife Extension and the Texas Agricultural Science Education Agency (Smith, et al., 2011). The final objective was not added until much later when it was determined that several assessment exam questions had no application to the initial three objectives. The following is a list of current Quality Counts program objectives.

1. To ensure that animals raised in 4-H and FFA livestock projects meet all food quality and safety standards
2. To provide character education for Texas Youth who participate in 4-H and FFA livestock projects
3. To maintain a positive image of youth livestock programs (Smith, et al., 2011).
4. To assess knowledge of general animal science.

Research Objectives

For this study there were three main objectives developed to accomplish the purpose of the study.

1. Describe characteristics of 4-H and FFA members who have taken the Quality Counts Assessment.
2. Compare students who have taken the Quality Counts Assessment based on age division and club affiliation.

3. Evaluate current Quality Counts Assessment results related to program objectives to determine if curriculum improvements are needed.

Limitations of the Study

This study had two limitations that should be considered in interpreting the findings:

1. This study was limited to only 4-H and FFA youth exhibiting livestock at any major stock show in Texas.
2. The study was limited to Quality Counts Program Assessments completed on-line during the time period of May 7, 2011 to September 18, 2012 only and did not include any other additional years.
3. Based on the randomly generated selection of senior age 4-H members for this study, research data reflects one single member's assessment score from that particular group.

Need for the Study

The continued concern and perceived criticism of Texas youth exhibiting livestock and having little to no knowledge or understanding of basic animal husbandry has lead youth livestock educators to develop the Quality Counts training and assessment program as a requirement. Therefore, Texas A&M AgriLife Extension Service and Texas Education Agency formed a partnership and initiated the program in 2005 but did not become mandatory for all exhibitors until 2012.

At the program's inception, four program objectives were identified. However, until this study there has not been any research conducted to determine if in fact participating youth are reaching objectives set forth by the Quality Counts program. Therefore this study was designed to assist in determining the value of the Quality

Counts program and identify possible changes needed in the program's training and assessments.

Definition of Terms

4-H – "A community of young people across America who are learning leadership, citizenship, and life skills" (Learn About 4-H)

AgriLife Extension – "An organization that improves the lives of people, businesses, and communities across Texas and beyond through high-quality, relevant education" (What is Extension?).

AgriLife Regions – All counties in Texas are divided into four regions based on location. Those regions are: North, South, East and West.

Character Counts Education - Curriculum established to promote and teach youth the six pillars of character: Trustworthiness, Respect, Responsibility, Fairness, Caring and Citizenship (Character Counts).

County Livestock Show- An event in which 4-H and FFA livestock exhibitors enter their livestock projects to be judged based on quality traits of that animal.

FFA – "Organization dedicated to making a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education" (Mission and Motto)

Quality Assurance - Are attributes associated with animal health and well being.

Quality Counts - Educational Program that provides character education and its influence on junior livestock projects.

Livestock Project- An animal that is raised, cared for and shown for exhibition by an individual.

Major Stock Show- Where livestock animals come together at one central location and are exhibited for competition.

Junior Aged Exhibitor - Any youth involved in 4-H and FFA who is 9 years to 13 years of age as of August 31 of the current year.

Senior Aged Exhibitor - Any youth involved in 4-H and FFA who is 14 to 19 years of age as of August 31 of the current year.

Six Pillars of Character – Those human character attitudes, behaviors and skills that relate to trustworthiness, respect, responsibility, fairness, caring and citizenship.

Urban Initiative County – Are the 20 most populated counties in Texas having a population of 200,000 or more (Ripley J. , 2012).

Non-Urban Initiative County – Counties in Texas not defined as urban initiative counties (Ripley J. , 2012).

Summary

The Texas youth livestock program is the largest in the world (Quality Counts, 2011)In 2012, there were over 76,000 junior entries in major livestock shows across Texas. This calculates to over 14 million pounds of meat entering the food chain. The livestock show industry is big business. When considering project work, exhibition, premium sales and final distribution of livestock to consumer and the impact of those involved emphasizes to educators the importance to teach and build youth character though the Texas livestock show program. This study attempted to examine the Quality Counts training assessment and participant results related to program objectives and determine if curriculum changes were needed.

CHAPTER II

REVIEW OF LITERATURE

For this study an overview of the purpose of Cooperative Extension, program development, and 4-H and FFA was examined. Concluding this review, I focused on literature pertaining to character education, youth livestock programming, and the integration of the two in the Quality Counts Assessment.

Purpose and Objectives

The purpose of this study was to examine the effectiveness of the current Quality Counts Training Assessment. Research objectives were developed to determine whether or not participants are meeting the program objectives. Research objectives of this study are:

1. Describe characteristics of 4-H and FFA members who have taken the Quality Counts Assessment.
2. Compare students who have taken the Quality Counts Assessment based on age division and club affiliation.
3. Evaluate current Quality Counts Assessment results related to program objectives to determine if curriculum improvements are needed.

Cooperative Extension

According to Rasmussen, "In the beginning, it was only those children of the well-to-do that attended higher education" (Rasmussen, 1989). However it wasn't until the passing of the Morrill Act of 1862 which provided federal funding allowing states to declare land-grant universities that made higher education available to more than just the well-to-do. The act provided for at least one college in each state to teach agriculture and mechanic arts not excluding traditional scientific and classical studies (Ritter).

The Hatch Act of 1887 provided the establishment of research farms where universities could conduct their research in agricultural, mechanical and related problems faced by rural citizens (Ritter). With the implementation of these two acts there still seemed to be a missing link. What about those who could not attend universities? How could they obtain the knowledge being taught? This is where Cooperative Extension began to play a major role while serving as the link between sharing university based research and information to those who were unable to attend college. Through extension, this information would remain available throughout one's life.

The Morrill Act of 1890 was passed to established land grant universities in each state to provide non-discrimination of ethnicity for admission. This led to the establishment of what is known today as "1890 Land-Grant Institutions. The Smith-Lever Act of 1914 established the Cooperative Extension Service. The act mandated mutual cooperation of the United States Department of Agriculture and Land-Grant Colleges in conducting agricultural extension work and specified that the work,

> "…shall consist of instruction and practical demonstration in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications and other wise…"(Ritter).

This act proved to be the beginning of the educational delivery method for bringing the university to the people (Rasmussen, 1989). Extension is the agency for change and problem solving that focuses on providing researched based information to serve the needs of community clientele.

Today in Texas, Cooperative Extension is under the umbrella of the Texas A&M University System headquartered in College Station, Texas and is known as the Texas A&M AgriLife Extension Service and is the largest Extension Service in the United States (Borden,

2005). This network consists of 600 county extension agents, located in 250 of 254 counties and some 350 specialists along with over 104,000 volunteers (Extension T. A., 2013). These groups work together to educate the public in the areas of agriculture, family and consumer science, 4-H and youth and community development programs. Through these programs Texas AgriLife reaches over fifteen million Texans annually. Texas AgriLife Extension Service mission is to: improve the lives of people through high-quality relevant educational programs.

A Brief History of 4-H

4-H actually began prior to the passage of Smith-Lever Act of 1914, which granted the partnership of United State Department of Agriculture with Extension. Its earliest development on a National level dates back to 1896 when Cornell University's Liberty Hyde Bailey distributed educational brochures on agriculture for youth interested in a career in agriculture (Wessel, T. & Wessel, M., 1982). In the early 1900's educators started to look at ways to link learning to the needs of rural families. In Texas, the first county Extension agent was T. M. (Tom) Marks of Jack County who organized the first 25 member boy's corn club. Marks taught these young boys' hands on skills needed for growing corn and an opportunity to learn by doing. This learning by doing concept serves as the foundation and purpose for 4-H programs across the country. By 1910 "pig clubs", and "beef clubs", were established along with the first "girls' tomato clubs" of Milam County in 1912 (Wessel & Wessel, 1982). From there expansion of various educational programs exploded and now has developed project work in over 40 different categories ranging from food and nutrition, leadership, shooting sports, livestock and community service.

The 4-H organization is open to all youth ages 9-19 and even has its own national emblem, the four-leaf clover. Each clover represents one of the four H's and are key components to the organizations motto and pledge: Head t0 clearer thinking, Heart to greater

loyalty, Head to larger service, and Health to better living for my club, my community, my country and my world. Nationally, 4-H has grown to become the nation's largest youth organization with over 6.5 million members (National 4-H Council , 2012). The Texas 4-H program is 104 years old and currently holds over one million youth members (Texas 4-H and Youth Development, 2012). The mission of the organization has remained the same; develop life skills for all youth "To Make the Best Better".

A Brief History of FFA

The Smith- Hughes Act of 1917 granted the adoption of vocational agricultural instructional courses into education systems. Nationally, Henry Groseclose, an agricultural teacher who helped organized the first Future Farmers of Virginia for boys in agriculture classes. This idea soon captured the interest of many throughout the country and in 1926 it was used as the model to create the Future Farmers of America (FFA) organization known today (History, 2012).

The 82 year history of the Texas FFA program dates back to 1929 when it was first chartered into the Texas education system. It was introduced as an in-school classroom agricultural educational program for youth primarily focusing on production agriculture. Since its inception the focus has broadened to address the needs and interests of students in urban and suburban schools while also continuing the interest of traditional rural students. Today, Texas FFA offers more than 50 Agriculture Food and Natural Resources courses which give students the opportunity to apply practical classroom knowledge to real world experiences.

Texas FFA is the nation's largest FFA Association with more than 85,000 members. Of those members 92% are in grades 9-12 and 5% are in grades 7-8. Like 4-H, FFA has its own motto: Learning to do, Doing to Earn, Earning to Live, and Living to Serve (General Information, 2012). The organization's mission: to make a positive difference in the lives of

students by developing their potential for premier leadership, personal growth and career success through agricultural education (Texas FFA Agricultural Facts, 2012).

Extension Program Development

Program development is an ongoing dynamic process that Extension professionals follow as they plan, implement and evaluate their educational programs (Gibson, 2001). The process usually begins with an idea or need for change. These ideas are lead by individuals and or groups who normally develop into committees. Its unique structure enables the entire program development process to be one of the most powerful impact systems ever designed. The process consists of four key components with corresponding steps for each. According to Texas AgriLife Extension publication handbook "Creating Excellent Programs" there are four necessary steps to developing effective programs. Those are: 1) Planning, 2) Design, 3) Implementation and 4) Measure (Ripley, J., Cummings, S., Lockett, L., Pope, P.,Wright, M., Payne, M., Keith, L., Murphery, T.).

Planning: The first major step is the planning stage. Also within the planning stage there are four major areas that must be identified. Those are: 1) Identify the issue, 2) Define the situation, 3) Identify and describe the target audience and 4) Define intended outcomes and objectives. These steps can be determined by conducting a needs assessment. According to Gupta, a needs assessment frames the problems or opportunities of interest and builds relationships among the people and groups who have a stake in the issue (Gupta, 2007).

Design: The second step to effective program development is outlining the program design. There are two primary tasks to be accomplished: 1) Identify or develop content for the issue/topic and 2) Develop the activities and lesson for delivery.

In the design process, a complete study and analysis of the entire plan is conducted to determine the number of action plans that will be needed, and how they will be sequenced to implement the plan program ((Boone, J. Edgar, Safrit, Dale, R., Jones, Jo, 2002).

Implement: The third critical step is the implementation of the plan. For this step to be successfully two key tasks must occur: 1) Deliver the content via appropriate delivery method and 2) Measure customer satisfaction and program participation to determine needed changes. Methods of delivery may vary depending on the target audience and the situation. Most commonly is lectures delivery in classroom type settings. However other methods of delivery may include those held during conferences, meetings, workshops, tours, newsletters, television, radio, home and farm visits (Ripley, J., Cummings, S., Lockett, L., Pope, P.,Wright, M., Payne, M., Keith, L., Murphery, T.).

Customer satisfaction is easily transferred to Extension programming. To assure continued relations with program participants in the future, these basic questions should be addressed: How satisfied were participants with the program? Were their expectations met? What did you like the best and the least? Did the program help participants make decisions about their own situation? (Organizational Development).

Measure: The final and perhaps the most important step is measure. There are three very important tasks needed for determining total program effectiveness and outcome results: 1) Conduct an evaluation of the entire program to measure its impact. 2) Report the results to the program stakeholders and 3) Conduct long-term follow-up evaluation to determine the economic impact when appropriate. Collecting and analyzing program data is crucial in determine if program has achieved the intended participant change and impact. Some examples of evaluation methods are: surveys, questionnaires, direct observation and interviews. Stockholders are

extremely interested in program results. Interpret program highlights and summaries to key individuals and groups such as: coworkers, administration groups and elected officials. Finally, two to three months following the program distribute a follow up evaluation with questions pertaining to any economic impact that may have occurred. Any economic benefits will serve as a much more powerful documentation for interpretation.

Quality Counts Program

First we must understand what quality count is and then describe its relationship to the youth livestock exhibition industry. Quality Counts is a youth livestock educational curriculum designed for all Texas youth livestock exhibitors. The mission of the program is two-fold: foster the development of good character for youth who participate in livestock exhibition and to also teach the importance of food safety and quality assurance in livestock projects (Quality Counts, 2011).

The curriculum concentrates on teaching youth livestock exhibitor's character building by utilizing the six pillars of character: trustworthiness, responsibility, citizenship, caring, respect and fairness. Furthermore the curriculum focuses on teaching youth how each pillar of character relates to livestock and the importance of implementing proper animal husbandry practices. Leading educational and human service organizations across the country uses character Counts, reaching more than 40 million kids (Character Education, 2012).

In terms of how quality counts fits into the youth livestock exhibiting industry, in recent years livestock shows and youth exhibitors have received criticism for applying unethical practices to livestock. This created a bad perception for youth and insinuated that exhibitors were only involved in the exhibition of livestock, and has little to no knowledge of proper animal husbandry practices or food safety and quality assurance. This became disturbing to Texas 4-H and FFA program administration and led to the development of the Quality Counts curriculum in

2005, which was later updated in 2011 (Quality Counts, 2011). In the summer of 2010, all major livestock shows in Texas adopted the mandatory Quality Counts on-line training and assessment requirement for all youth exhibitors. This meant that all youth planning to exhibit livestock at any 2011 major livestock show in Texas must have completed and successfully passed the quality counts training and assessment prior to entry dates of November 15 or December 1. All Texas Major Livestock Shows included: State Fair of Texas Dallas, Texas, Ft. Worth Exposition and Livestock Show, San Antonio Livestock Show, Houston Livestock Show and Star of Texas Livestock Show Austin, Texas. The required assessment passing score for quality counts is 80%. To date, there has been no research to determine the impact of the Quality Counts for youth livestock exhibitors in Texas.

Livestock Exhibition

Early history of livestock exhibition records that Elkanah Watson, a New England patriot and farmer organized the first exhibition of livestock held in Pittsfield, Massachusetts in 1811. This also marked the first real competition of cattle sheep and swine where prize money was distributed. (International Association of Fairs & Expositions, 2012). Today there are over 3,200 fairs and shows held throughout the country which are the showcase for livestock competitions, agricultural exhibits and highlights project work of youth organizations such as 4-H and FFA.

To demonstrate the value of exhibiting livestock and its impact on young participants a study by Davis, Kieth, Williams and Fraze (2001) investigated the perception and benefits of competitive livestock exhibiting. This qualitative study was conducted at the Houston Livestock Show and Rodeo. The findings concluded that there were six major themes related to competitive livestock exhibiting that were of benefit to the family. Those were: 1) social relations, 2) character, 3) family, 4) competition, 5) learning new cultures and environments, and

6) helps finance youth's education. The study concluded that competitive livestock exhibition does in fact benefit Texas 4-Hers in developing life skills.

An Indiana study conducted by Rusk, Summerlot-Early, Machtmes, Talbert & Balschweid (2003) determined that 4-Hers who exhibit livestock at a state fair have higher skill levels in the areas of animal health care and management, selection and grooming than those who only exhibited at local county fairs. Findings concluded that those involved in livestock project work develop more responsibilities that benefits in completing homework, being punctual at work and even caring for younger siblings. The study suggests that livestock project work does in fact contribute to foundational development for producing productive citizens.

Coufal (2009) conducted a study to determine the total number of youth livestock projects entered in Texas during 2006 and identify any apparent education trends. Further the study determined how Quality Counts is perceived by County Extension Agents. The study determined there were 89,839 livestock projects entered in 2006. This was compared to a similar study conducted by Boleman, Howard, Smith and Couch (2001) which comparatively indicated a 7.06% increase in market livestock projects since 2000. As an added component, qualitative data collection indicated Quality Counts to be educationally useful and was easy to implement mostly being utilized at project clinics. Program participants increased their knowledge of livestock projects, ethics and character behavior changes.

Character Education

While the Quality Counts training program primarily focuses on youth livestock education, the programs developmental structure is primarily based on the attributes of character education. In the January (1997) State of the Union Address, former President Bill Clinton, highlighted and discussed the important need to foster children in their development of character education (Helwig, 1997). It was the first time a President had ever made character education a

major issue for government as well as its first real initial movement towards implementation within public education systems.

What is Character Education? It is identified as the process of learning common attitudes, beliefs and behaviors that are important for people to have as responsible citizens (Quality Counts, 2011). Character Education stresses the importance of learning and practicing good behavior that reflects positive ethical values. It helps children to become conscious of the right thing to do, committed to doing the right thing, and competent in doing the right thing.

Does teaching Character Counts make a difference? According to a study reported by Josephson Institute, Center for Youth Ethics, 57 Nebraska teachers who taught the six pillars of character determined the following. Eighty-five percent reported an overall positive difference in the children they taught. Seventy-three percent reported students using the language of the six pillars of character and reported a change in their own behavior as a result of teaching character education. Educators also reported 61% of students were seen helping each other more frequently. Additionally 55% reported seeing fewer students blaming others and 50% saw instances where students were being more truthful. (Character Counts! Works And here are the numbers to prove it., 2007).

While studies like this provide positive results in students, the question then becomes what type of an effect does it have on those who are teaching character education? A study conducted by Harms and Fritz (2001) surveyed 53 Cooperative Extension personnel to determine the effect and personal impact of ethical values from teaching character counts. Results confirmed that 89% were more sensitive to ethical dilemmas within Cooperative Extension. Eighty-five percent were more likely to advocate ethical decisions making in their circle of friends and families. Eighty-three percent were more likely to take a stand in local ethical

situations. These results suggest that there are strong correlations of Extension personnel teaching character counts and the relationship of sensitivity towards ethical dilemmas within all facets of Cooperative Extension (Harms, K., Fritz, S., 2001).

Life Skills Gained From Livestock Projects

A study conducted by Boleman, Cummings and Briers (2004) investigated parents perception of 4-Hers involved in beef projects and effects on developing life skills. Results of the top five selections were: 1) accepting responsibility, 2) setting goals, 3) develop self-discipline, 4) self-motivation and 5) knowledge of livestock industry. The study revealed there was indeed a low to moderate, positive relationship between years of participation and life skill development. Therefore suggesting that the longer children were actively engaged in the beef project, the more likely they were to develop needed life skills contributing to being more productive adults.

Food Quality and Safety Standards

Within the past 10 years the importance for youth to understand quality assurance of livestock has become a major concern of livestock educators. Young people participating in livestock projects need to understand that the final product is food. Furthermore, as a livestock producer, there's an obligation to produce a quality product that is safe and wholesome for the consumer. Adult producers can participant in educational programs such as Beef, Pork and Dairy Quality Assurance, however there are minimum programs readily available specifically targeted for youth. A study (Nold & Hanson, 2001) conducted through the University of Nebraska, Lincoln sought to teach youth the significance of providing a wholesome meat product to consumers through quality assurance programming. The goal of the study was to develop a more age appropriate quality assurance program for youth. County Extension Agents were provided swine educational training kits which contained various hands-on lessons. Both pre

and post-test were delivered to all youth trained. Within the six constructs evaluated, results indicated increased knowledge by all youth and strongly supported the value of hands-on educational experiences. More importantly, the youths' knowledge of quality assurance strengthened livestock industry standards for producing safe and wholesome food products both currently as well as in the future.

Due to the fact that livestock that is shown for exhibitions final end point is entered into the food chain, youth exhibitors should be considered as livestock producers. Each year over 14 million pounds of red meat actively enters the food chain from livestock projects in Texas (Quality Counts, 2011). Youth need to realize that it is their responsibility to make sure they are producing safe, wholesome products and that the animal husbandry decisions they make affects the quality of food available to the consumer.

Major Stock Shows such as State Fair Texas Dallas, Texas, Ft. Worth Exposition, San Antonio Stock Show, San Angelo Stock Show, Houston Livestock Show and Star of Texas Livestock Show Austin, Texas are doing their part to guarantee consumers quality assurance and food safety standards are adhered to for livestock exhibited at shows. All major stock shows now have zero tolerance and unethical treatment rules in place and are strictly enforced. However in past years, some violators have created bad publicity for not only the livestock show industry but also the individual stock show, as well as the 4-H and FFA programs.

According to a report by Goodwin (2001), Fall of 1994- Ohio State Fair, carcasses of seven of the tops ten steers were condemned because of illegal drugs. Also that same year at the North American International Livestock Exposition in Louisville, Kentucky, three of the top six placing animals were found to have illegal drug residues. In September of 1994, Tyler County

Fair in Woodville, Texas a violator was caught putting a water hose down a pigs throat so that if would fill up with water so that it would make the required weight limit (Goodwin, 2001).

These situations have led livestock exhibitions across this country to engage in animal ethics and food safety educational programs such as the series of livestock ethics educational videos produced by Goodwin and quality counts program to educate youth right from wrong regarding livestock ethics. The Quality Counts curriculum dedicated an entire section to the food supply continuum (Quality Counts 2011). Steps to the food supply continuum include: 1) producers, 2) transportation, 3) marketing, 4) harvesting, 5) processing, 6) retail/distribution, 7) food service and consumer.

The way animals are raised, and decisions their caretakers make determine the quality of the food that comes from those animals. Youth livestock exhibitors/ producers need to understand that product safety is critical. However infractions can occur at any point during the food supply continuum. Improper use of drugs, medicines, stress during transport, contamination at, during or after carcass harvest, or even improper handling of product by consumers can all effect food quality and safety.

CHAPTER III

METHODS AND PROCEDURES

This chapter provides the research methods and procedures utilized for this study. This chapter discusses the following topics: Research Design, Population and Sample, Instrument, Collection of Data and Analysis of Data.

Purpose and Objectives

The purpose of this study was to examine the effectiveness of the current Quality Counts Training Assessment. Research objectives were developed to determine whether or not participants meet program objectives. Research objectives of this study are:

1. Describe characteristics of 4-H and FFA members who have taken the Quality Counts assessment.
2. Compare students who have taken the Quality Counts assessment based on age division and club affiliation.
3. Evaluate current Quality Counts Assessment results related to program objectives to determine if curriculum improvements are needed.

Research Design

This assessment is a required program of completion for all youth exhibiting livestock in all major livestock shows in Texas. Secondary purposes of the study was to evaluate all completed assessment results of participating groups, and identify relationships based on the research objectives developed for this research study and to also evaluate the four program objectives to determine if curriculum improvements are needed.

The research design was by three two factorial ANOVA to compare participant groups and evaluate the quality counts program to determine if participants are meeting each of the four required objectives set forth by program developers.

Assessment Procedure

Beginning in 2012, all major livestock shows in Texas which includes: the State Fair of Texas, Ft. Worth Stock Show, San Antonio Livestock Exposition, San Angelo Stock Show, Houston Livestock Show and Rodeo, and the Star of Texas Fair and Rodeo adopted a new rule that now requires all exhibitors to have successfully completed and passed the Quality Counts Assessment as part of their livestock entry requirement. All major livestock show entry deadlines are during the fall with the exception of the State Fair of Texas, which is prior to spring shows. For all data reported in this study, all major livestock show entry deadlines were: August 15, 2011 for State Fair of Texas- Dallas, Texas; November 15, 2011 for Ft. Worth Stock Show- Ft. Worth, Texas; December 1, 2011 for San Antonio Livestock Show- San Antonio, Texas, San Angelo Livestock Show- San Angelo, Texas, Houston Livestock Show- Houston, Texas, and Star of Texas Livestock Show- Austin, Texas, as well as the August 15, 2012 entry deadline for State Fair of Texas- Dallas, Texas.

Participants are required to log on to Quality Counts web site at http://qualitycounts.tamu.edu/. First step is for all participants to log in their first and last name. Then they must provide their age, and affiliated group. There are three group selection options, which include 4-H member, FFA member, or both. Participants must then review the training section and take the required assessment test to become certified. The Texas A&M AgriLife Extension Service State 4-H Program Office in College Station, Texas is the housing and resource agency for both junior and senior age assessment questions.

Population and Sample

The target population of this study was all 4-H and FFA junior and senior age youth who entered livestock at any 2012 major livestock show in Texas. Junior age youth, 9 years or entered into the third grade to13 years as of August 31, 2011; senior age youth, 14-19 as of August 31, 2011. Although the Quality Counts Curriculum has been in place since 2005 the requirement for taking corresponding assessment in order to exhibit livestock projects has only been in existence since 2011.

For this study the population was Quality Counts Assessment "Completers" which consist of all 4-H and FFA youth livestock exhibitors who intend to exhibit livestock at any major livestock show in Texas during the 2012 major livestock show season. These youth have successfully completed the required quality counts program assessment from the time period of May 7, 2011 to September 18, 2012. All participants must have received Quality Counts training and successfully passed the assessment prior to entry of any major livestock show. For the major livestock show season in Texas, from May 7, 2011 to September 18, 2012 there were 18, 580 junior age assessment completers and 75, 172 senior age assessment completers for a sum total of 93,752 youth completers. Therefore due to the large population size for this study, a suggested sample size would need to be determined. After much research of reliable resources for suggested sample sizes, it was determined to utilize the recommendations provided by Pennsylvania State University (Extension P. S.), publication entitled: *How to Determine a Sample Size* which can be found at http://enxtension.psu.edu/evaluation/pdf/TS60.pdf. The publication illustrates a table to be used as a guide for finding a base sample size utilizing 95% confidence level with a +/- 5% margin of error at a variability of 50% and was the reference for determining the sample size utilized for this study. The publication table suggests that when population sizes are 4,000-100,000 then it is recommended to use a sample size of 58. Since this

studies population size for all junior aged (9 to 13 years of age as of August 31 of the current year) Quality Counts completers there were 18,580 and all senior aged (14 to 19 years of age as of August 31 of the current year completers there were 75,172. Therefore as recommended by Pennsylvania State University publication, (Extension P. S.), *How to Determine a Sample Size* it was determined that a total of 58 juniors and 58 seniors were selected as the final sample size for this study. The three different organizations for the junior section include junior 4-H members, junior FFA members, and junior 4-H and FFA members. The three different organizations for the senior sections include senior 4-H members, senior FFA members, and senior 4-H and FFA members. The selection of the 58 participants from each age division was determined by utilizing the Random Number Generator (Random. Org, 1998-2012) found at www.random.org.

The junior assessment scores within each organization was determined to be a homogenous group, meaning scores were fairly close to one another. Therefore, due to the large variance of assessment scores within the senior age division, the descriptive data focuses only senior age division with the three organization selections. The senior assessment consists of 110 questions that can be found in Appendix C.

Additionally, although there were 75,172 senior age division completers, the data for this study included assessment scores based on number of total assessment attempts. This is due to the fact that all Quality Counts completers may take the assessment as many times as needed to achieve a passing score of 80% or higher. Therefore for this study a total of 107,061 senior assessment score attempts were analyzed.

Instrument

The junior age division assessment is composed of a randomly computer generated 10 question exam. The senior assessment is composed of a randomly computer generated 20

question exam. For each assessment, a set of questions may range from true/false, fill in the blank or multiple choices. For example:

1) Who is responsible for raising a healthy animal?

   a) Transporter

   b) Producer

   c) Consumer

   d) Harvester

   The correct answer would be: b) Producer.

All participants must pass with an 80% or better. Each question is worth five points. If a participant does not complete with a passing score then they can retake the assessment as many times as needed until one does pass. However with each retake, new random questions may appear. Once a student has passed the exam a verification number may be accessed along with a certificate of completion. The verification number will be a required item for recoding at the time of making official entries to any major livestock show in Texas. The junior age assessment contains a data base total of 92 questions and senior age assessment contains a data base total of 110 questions. A copy of the instrument is located in Appendix A.

Institutional Review Board

Upon determining the nature of the study the researchers submitted the proposal to the Texas Tech University Human Research Protection Program (HRPP). The mission of the HRPP is to protect the rights and welfare of human subjects participating in research at Texas Tech University (Research, 2013).

The proposal was submitted to the April 18, 2013 and notified by e-mail official approval on April 23, 2013. The notice stated the data for this study would reveal no names or identifiers. The Texas A&M AgriLife Extension State 4-H Office collected the data and for the purposes of

this study agreed to share the de-identified data. Due to the fact that there will be no interaction or intervention with human subjects, the HRPP determined that the research did not need HRPP review or approval. Therefore the proposal file was closed. A copy of the e-mail received is located in Appendix B.

Collection of Data

All data was collected through a central data base storage system operated under the direction of the Texas A&M AgriLife Extension Service State 4-H Program Office in College Station, Texas. Data analysis was collected from the assessment instrument based on the percentage of questions participants answers correct or incorrectly and will be analyzed by using sums, averages, means and standard deviations. All published data reviled any names or identifiers of participants. Additionally, there was no interaction or intervention with participants throughout the study, nor was there any collection of personal or private information from the subjects. All final data analysis will assist in determining what objectives are being achieved by quality counts participants and will indicate needed changes in program delivery and assessment.

Analysis of Data

The assessments were developed and lead by the Texas A&M AgriLife Extension Service College Station, Texas. The program is under the direction and leadership of Dr. Chris Boleman, State 4-H and Youth Development Program Leader. Dr. Boleman and his associate Dr. Kevin Chilek provides leadership and direction for Quality Counts Program.

For this research all Quality Counts Assessment data has already been collected and is available through the Texas A&M AgriLife Extension State 4-H Office. All data access has been granted through permission of Dr. Chris Boleman who has agreed to the release of all resources and needed materials for this study.

SPSS for windows software version ten was used to calculate the data analysis for this particular study except where pre coding was needed so that groups and their relationships could be measured. Due to the fact that Quality Counts program developers had never categorized all assessment questions to one of the four main objectives, this was the first step. All assessment questions were color coded and assigned to an objective that best fit the question. For example:

1) A trustworthy youth would not do which of these?
    a) Take a water bucket that does not belong to them
    b) Use only approved drugs on animals
    c) Follow all the show rules
    d) Remember to feed and water daily

    The correct answer is: a) Take water bucket that does not belong to them.

    This question is a best fit to objective 1= blue: To provide character education for Texas Youth who participate in 4-H and FFA livestock projects. Other objectives were color coded as: objective 2= yellow: To ensure that animals raised in 4-H and FFA livestock projects meet all food quality and safety standards; objective 3= pink: To maintain a positive image for youth livestock programs; and objective 4= green: To assess knowledge of general animal science.

    As a result of the coding task the following assessment question break down as related to the quality counts program objectives was determined.

Quality Counts Program Objectives:	*Assessment*	
	Junior	*Senior*
1) Ensure all 4-H & FFA livestock projects meet all food quality standards	17	82
2) Provide character education for Texas 4-H and FFA youth	30	14
3) Maintain a positive image of youth livestock programs.	7	6
4) Broaden general knowledge of animal science	38	8
Total:	92	110

Other additional data that was coded prior to generating SPSS version ten calculations for this study pertained to participants affiliated group. As previously stated, when a participant logs on to the Quality Counts they must first choose which affiliation they are a member of. Therefore the following code was assigned for each affiliation: 1= FFA; 2= 4-H and 3= both.

CHAPTER IV

RESULTS AND DISCUSSION

Chapter IV will discuss the findings of this study. Each objective will be explored in-depth.

Purpose and Objectives

The purpose of this study is to evaluate the Quality Counts on-line training and assessment to determine whether or not participants are meeting the program objectives. The objectives of this study are:

1. Describe characteristics of 4-H and FFA members who have taken the Quality Counts Assessment.
2. Compare students who have taken the Quality Counts Assessment based on age division and club affiliation.
3. Evaluate current Quality Counts Assessment results related to program objectives to determine if curriculum improvements are needed.

Findings for Research Objective One

Research objective one sought to identify characteristics of 4-H and FFA members who have taken the Quality Counts assessment during the time period of May 7, 2011 to September 18, 2012. Data gathered and measured included number of individual youth who indicated, at time of assessment login their primary club affiliation membership as: 1.) 4-H member, 2.) FFA member, or 3.) both organizations, along with percentage of those assessment completers from each of the represented groups.

Figure 4.1 illustrates the following findings: The total number of *FFA junior age members* and percentage of those who have completed the Quality Counts Assessment

(*n* = 22, 37.93 %); *4-H junior age members* (*n* = 25, 43.10%); *4-H/ FFA junior age members* (*n* = 11, 18.96 %); *FFA senior age members* (*n* = 46, 79.31 %); 4-*H senior age members* (*n* = 1, 1.72 %); *4-H/ FFA senior age members* (*n* = 11, 18.96 %).

Table 4.1
Characteristics of 4-H and FFA Members

	FFA		4-H		Both		Totals	
	n	%	n	%	n	%	n	%
Junior	22	37.93%	25	43.10%	11	18.96%	58	100%
Senior	46	79.31%	1	1.72%	11	18.96%	58	100%

Note: % indicates those percentages of members within each of the respected groups

Findings for Research Objective Two

Objective two's goal was to compare 4-H and FFA members who have taken the Quality Counts assessment based on age division during the time period of May 7, 2011 to September 18, 2012. Characteristics gathered and measured included individual youth organization membership i.e. 4-H or FFA, or both organizations along with appropriate age division i.e. junior or senior, average test scores, and standard deviations within each organization and age division.

Figure 4.2 illustrates the organization and age division with average assessment scores that relate to each category. The follow findings were revealed: The total number of *FFA junior age members* who have completed the Quality Counts Assessment (*n* = 22, *M* = 85.0%); 4-*H junior age members* (*n* = 25, *M* = 85.6%); *4-H/ FFA junior age members* (*n* = 11, *M* = 90.0%); *FFA senior age members* (*n* =46, *M* = 70.43%); *4-H senior age members* (*n* =1, *M* = 90.0%); 4-*H/ FFA senior age members* (*n* = 11, *M* = 80.90%).

Table 4.2
Organization and Age Division

	FFA			4-H			Both			Totals		
	n	Mean	sd	n	Mean	sd	n	Mean	sd	n	Mean	sd
Junior	22	85.00	11.85	25	85.6	13.25	11	90.00	10.00	58	86.20	12.11
Senior	46	70.43	21.46	1	90.00	0.00	11	80.90	16.55	58	72.76	20.84

Note: Mean indicates average assessment scores within each of the respected groups

Findings for Research Objective Three

The final objective of this study was to evaluate the current Quality Counts Assessment results related to program objectives and to determine if curriculum improvements are needed. To do so, Tables 4.3, 4.4, 4.5, 4.6 and 4.7 illustrates findings that include results which are directly related to research objective three.

Table 4.3 will be discussed first. This table represents the number of senior assessment questions related to each of the four program objectives and also indicates the percentage of questions answered correctly and incorrectly for each objective group. In providing a clearer understanding, it will be important to review the original program objectives that were determined at the time Quality Counts curriculum was launch back in 2005. Those are:

1. To provide character education for Texas Youth who participate in 4-H and FFA livestock projects
2. To ensure that animals raised in 4-H and FFA livestock projects meet all food quality and safety standards
3. To maintain a positive image of youth livestock program.
4. To assess knowledge of general animal science.

Keep in mind that the Quality Counts senior assessment data base contains a total of 110 questions. Notice that Table 4.3 indicates there are at total of 82 questions that directly relate to program objective one. During the time period of May 7, 2011 to September 18, 2012 there were a total of 75,172 senior age participants that completed the Quality Counts assessment. In Table 4.3, the frequency represents the number of times the questions were answered correct and incorrect related to each program objective The research result for Table 4.3 included the following findings: For Program Objective one, (*n* = 82; *correct* = 68.8%, *incorrect* = 31.2%); Program Objective Two (*n* = 14; *correct* = 71.4%, *incorrect* = 28.6%); Program Objective Three (*n* = 6; *correct* = 77.9%, *incorrect* = 22.1%); and Program Objective Four (*n* = 8, *correct* = 76.3%, *incorrect* = 23.7%).

Table 4.3
Descriptive Data of Senior Quality Counts Assessment Related to Program Objectives

					Correct		Incorrect	
Number	Program Objective	n	M	SD	f	%	f	%
1	To insure that animals raised in 4-H & FFA livestock projects meet all food quality and safety standards	82	0.69	0.43	1,099,134	68.8%	497,368	31.2%
2	To provide character education for Texas youth who participate in 4-H & FFA livestock projects	14	0.71	0.39	194,518	71.4%	77,884	28.6%
3	To maintain a positive image of youth livestock programs	6	0.78	0.39	90,557	77.9%	25,749	22.1%
4	To assess general animal science	8	0.76	0.39	118,976	76.3%	36,921	23.7%

Note. (n = number of questions related to specific program objective)
Note. Standard deviation applies specifically to mean

Table 4.4 illustrates each question related to program objective one. Frequency and percentage for all correctly and incorrectly answered questions can be found along with the mean and standard deviation for each question. At the bottom of Table 4.4 the grand mean for all 82 questions related to program objective one is listed as M = 0.69.

Table 4.4
Descriptive Data of Senior Quality Counts Assessment Questions for Program Objective One Ranked by Mean

					Correct		Incorrect	
Rank	Question Number	Question	M	SD	f	%	f	%
1	3578	A razor blade is what type of food safety hazard?	0.93	0.26	18320	92.9%	1400	7.1%
2	3589	Who is responsible for cutting the carcass into primal and retail cuts for distribution?	0.90	0.30	17518	89.7%	2010	10.3%
3	3721	All of this information is required on a medication label except	0.90	0.31	17308	89.5%	2021	10.5%
4	3644	On a feed tag, this alerts you to any special concerns that may create problems.	0.89	0.31	17414	89.4%	2058	10.6%
5	3715	All of this information is required on a medication label except	0.88	0.32	17115	88.4%	2253	11.6%
6	3575	Wood chips are what type of food safety hazard?	0.87	0.34	16932	86.9%	2548	13.1%
7	3574	Liquid pesticide residue is what type of food safety hazard?	0.86	0.34	16830	86.3%	2679	13.7%
8	3572	E. Coli Bacteria represent what type of food safety hazard?	0.85	0.36	16423	84.8%	2935	15.2%
9	3640	The part of the label that says "caution, or warning" tells you what?	0.85	0.36	16551	84.6%	3016	15.4%
10	3652	The label says to treat for five days. Your first treatment is Monday and you give the last shot on Friday, which type of medicine use is being described?	0.84	0.36	16520	84.4%	3047	15.6%

Table 4.4
Descriptive Data of Senior Quality Counts Assessment Questions for Program Objective One Ranked by Mean

					Correct		Incorrect	
Rank	Question Number	Question	M	SD	f	%	f	%
11	3579	A piece of plastic is what type of food safety hazard?	0.84	0.36	16297	84.3%	3024	15.7%
12	3580	Any type of bacteria is what type of food safety hazard?	0.84	0.37	16561	84.1%	3142	15.9%
13	3648	If you are medicating a steer and the label reads that you are to use 2 cc/100lbs. And the steer weighs 900lbs. How much medicine should you use?	0.84	0.37	16547	83.9%	3171	16.1%
14	3653	You use a drug approved for chickens on your sheep without prescription from a veterinarian, which type of medicine use is being described?	0.84	0.37	16191	83.7%	3162	16.3%
15	3738	All of this information is required on a feed label except	0.84	0.37	16298	83.7%	3183	16.3%
16	3736	All of this information is required on a feed label except	0.83	0.37	16166	83.3%	3239	16.7%
17	3594	Record keeping is vital when it comes to food (livestock) production. Producers should keep careful records of what activities?	0.82	0.38	15856	82.1%	3467	17.9%
18	3577	Listeria Virus is what type of food safety hazard?	0.82	0.39	15816	81.9%	3499	18.1%
19	3740	All of this information is required on a feed label except	0.82	0.39	16031	81.8%	3573	18.2%
20	3739	All of this information is required on a feed label except	0.82	0.39	15955	81.6%	3588	18.4%
21	3751	All of this information is required on a feed label except	0.81	0.39	15822	81.4%	3604	18.6%
22	3711	All of this information is required on a medication label except	0.81	0.39	16007	81.1%	3725	18.9%
23	3571	Safe food is equivalent to what?	0.80	0.40	15677	80.3%	3844	19.7%
24	3650	You decide to use a drug for pneumonia to treat your animal's ring worm without consulting a veterinarian, which type of medicine use is being described?	0.79	0.40	15568	79.5%	4018	20.5%
25	3569	Packing plants are not required to have a Hazard Analysis & Critical Control Points (HACCP) program in place.	0.79	0.40	15634	79.3%	4072	20.7%

Table 4.4
Descriptive Data of Senior Quality Counts Assessment Questions for Program Objective One Ranked by Mean

					Correct		Incorrect	
Rank	Question Number	Question	M	SD	f	%	f	%
26	3702	Lamb's and goat's dressing percent is very close, at 53% and 55% respectively.	0.79	0.41	15511	79.2%	4083	20.8%
27	3712	All of this information is required on a medication label except	0.79	0.41	15389	78.9%	4121	21.1%
28	3576	Oil and grease residue is what type of food safety hazard?	0.78	0.42	15155	77.7%	4339	22.3%
29	3728	All of this information is required on a medication label except	0.77	0.42	14804	76.8%	4461	23.2%
30	3733	From these choices what is the best rout for injection medication	0.77	0.42	15055	76.8%	4558	23.2%
31	3718	All of this information is required on a medication label except	0.76	0.43	14987	76.2%	4673	23.8%
32	3583	The weight of the carcass after an animal has been harvested is referred to as the what?	0.76	0.43	14821	76.2%	4624	23.8%
33	3713	All of this information is required on a medication label except	0.76	0.43	14708	75.6%	4748	24.4%
34	3732	From these choices what is the best route for injection medication	0.75	0.43	14727	75.5%	4785	24.5%
35	3584	What is the name of meat harvested from sheep older than one year of age called?	0.75	0.43	14513	75.3%	4763	24.7%
36	3719	All of this information is required on a medication label except	0.75	0.43	14631	75.0%	4874	25.0%
37	3642	The active ingredient on a medicine label identifies what?	0.75	0.43	14465	74.8%	4870	25.2%
38	3723	All of this information is required on a medication label except	0.75	0.43	14556	74.7%	4935	25.3%
39	3729	All of this information is required on a medication label except	0.75	0.44	14435	74.6%	4902	25.4%
40	3701	What is the average dressing percent for swine?	0.74	0.44	14614	73.8%	5180	26.2%
41	3649	Your animal is diagnosed with foot rot and you treat it with over the counter medication approved for foot rot, which type of medicine use is being described?	0.74	0.44	14233	73.7%	5078	26.3%

Table 4.4
Descriptive Data of Senior Quality Counts Assessment Questions for Program Objective One Ranked by Mean

					Correct		Incorrect	
Rank	Question Number	Question	M	SD	f	%	f	%
42	3747	All of this information is required on a feed label except	0.73	0.44	14151	72.9%	5265	27.1%
43	3707	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	0.72	0.45	14053	72.1%	5440	27.9%
44	3716	All of this information is required on a medication label except	0.72	0.45	13988	71.8%	5490	28.2%
45	3752	All of this information is required on a feed label except	0.71	0.45	13953	71.3%	5607	28.7%
46	3717	All of this information is required on a medication label except	0.70	0.46	13656	70.0%	5843	30.0%
47	3724	All of this information is required on a medication label except	0.70	0.46	13510	69.9%	5804	30.1%
48	3705	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	0.70	0.46	13596	69.6%	5945	30.4%
49	3722	All of this information is required on a medication label except	0.69	0.46	13622	69.4%	6010	30.6%
50	3586	What is the product after the animal is harvested called?	0.68	0.47	13381	68.3%	6201	31.7%
51	3645	On a feed tag, this identifies the species and class of animal for which the feed is intended to be used.	0.66	0.47	12937	66.3%	6568	33.7%
52	3730	All of this information is required on a medication label except	0.66	0.47	12719	65.7%	6641	34.3%
53	3720	All of this information is required on a medication label except	0.65	0.48	12568	64.8%	6824	35.2%
54	3750	All of this information is required on a feed label except	0.65	0.48	12617	64.6%	6915	35.4%
55	3709	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	0.64	0.48	12451	63.9%	7035	36.1%
56	3735	All of this information is required on a feed label except	0.63	0.48	12351	63.4%	7131	36.6%
57	3749	All of this information is required on a feed label except	0.63	0.48	12318	62.7%	7315	37.3%
58	3654	The label says to give 10cc and your vet says to give 20cc, which type of medicine use is being described?	0.63	0.48	12305	62.7%	7330	37.3%

Table 4.4
Descriptive Data of Senior Quality Counts Assessment Questions for Program Objective One Ranked by Mean

					Correct		Incorrect	
Rank	Question Number	Question	M	SD	f	%	f	%
59	3588	Who is responsible for safe handling of the animal product once they get it home?	0.62	0.49	12015	62.1%	7319	37.9%
60	3725	All of this information is required on a medication label except	0.61	0.49	11918	61.4%	7483	38.6%
61	3708	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	0.57	0.49	11074	57.4%	8204	42.6%
62	3743	All of this information is required on a feed label except	0.56	0.50	10771	55.6%	8601	44.4%
63	3744	All of this information is required on a feed label except	0.55	0.50	10800	55.5%	8672	44.5%
64	3726	All of this information is required on a medication label except	0.55	0.50	10679	55.3%	8631	44.7%
65	3742	All of this information is required on a feed label except	0.54	0.50	10498	54.0%	8936	46.0%
66	3748	All of this information is required on a feed label except	0.54	0.50	10425	53.5%	9044	46.5%
67	3746	All of this information is required on a feed label except	0.53	0.50	10375	53.2%	9114	46.8%
68	3741	All of this information is required on a feed label except	0.53	0.50	10238	53.0%	9082	47.0%
69	3587	When you calculate the carcass weight divided by the live weight times 100 you are calculating what?	0.51	0.50	9941	51.2%	9475	48.8%
70	3706	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	0.51	0.50	9856	50.8%	9544	49.2%
71	3651	The label says "administer only to lactating females" and your veterinarian says to give it to your three week old calf, which type of medicine use is being described?	0.48	0.50	9353	48.0%	10132	52.0%
72	3714	All of this information is required on a medication label except	0.48	0.50	9198	47.5%	10149	52.5%
73	3734	From these choices what is the best rout for injection medication	0.47	0.50	9059	46.6%	10380	53.4%
74	3737	All of this information is required on a feed label except	0.46	0.50	8841	45.8%	10463	54.2%

Table 4.4
Descriptive Data of Senior Quality Counts Assessment Questions for Program Objective One Ranked by Mean

					Correct		Incorrect	
Rank	Question Number	Question	M	SD	f	%	f	%
75	3593	What is the process of rendering the animal unconscious, draining the blood, and removing the head intestines and stomach as well as the hide and the shank of the animal called?	0.45	0.50	8864	45.4%	10679	54.6%
76	3710	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	0.45	0.50	8776	45.2%	10621	54.8%
77	3665	How many levels of biosecurity are there?	0.45	0.50	8680	44.6%	10800	55.4%
78	3637	The lot number on a medicine label Identifies what?	0.42	0.49	8029	41.7%	11221	58.3%
79	3646	On a feed tag, this is where you'll find the minimum and/or the maximum levels of essential nutrients.	0.41	0.49	7855	40.7%	11461	59.3%
80	3585	The weight of the animal at the time of harvest is called what?	0.38	0.49	7480	38.0%	12184	62.0%
81	3727	All of this information is required on a medication label except	0.32	0.47	6304	32.2%	13291	67.8%
82	3745	All of this information is required on a feed label except	0.31	0.46	5968	31.1%	13246	68.9%
		Grand Mean:	**0.69**					

Table 4.5 illustrates each question related to program objective two. Frequency and percentage for all correctly and incorrectly answered questions can be found along with the mean and standard deviation for each question. At the bottom of Table 4.5 the grand mean for all 14 questions related to program objective one is listed as M = 0.72

Table 4.5
Descriptive Data of Senior Quality Counts Assessment Questions for Program Objective Two Ranked by Mean

Rank	Question Number	Question	M	SD	Correct		Incorrect	
					f	%	f	%
1	3675	When you are showing your animal, it is important to be a good showman. Which of the following characteristics display good showmanship?	0.96	0.20	18760	95.9%	805	4.1%
2	3564	Winning is the only way to measure success.	0.94	0.24	18263	94.1%	1151	5.9%
3	3566	Quality Counts applies outside of 4-H or FFA in our everyday life?	0.92	0.27	18034	92.3%	1515	7.7%
4	3559	A youth showing their "care" would not do which of these?	0.87	0.34	16828	86.8%	2558	13.2%
5	3700	What is not a skill that you should gain from exhibiting livestock?	0.85	0.36	16390	84.6%	2975	15.4%
6	3662	In the 6 C's of Success, a schedule of events is called?	0.82	0.38	15936	82.1%	3465	17.9%
7	3661	In the 6 C's of Success, something, such as money that is given or received as payment is termed?	0.82	0.39	15868	81.6%	3577	18.4%
8	3660	In the 6 C's of Success, the combination or qualities or features that distinguishes one person, group or thing from another is?	0.81	0.39	15850	80.9%	3739	19.1%
9	3659	In the 6 C's of Success, the act or instance of selecting is referred to as?	0.69	0.46	13438	69.0%	6036	31.0%
10	3663	In the 6 C's of Success, trust or faith in a person or thing is?	0.62	0.49	12071	61.8%	7449	38.2%
11	3704	You can legally change the instructions for using feed or feed additives if a vet tells you to.	0.49	0.50	9517	48.9%	9944	51.1%
12	3664	In the 6 C's of Success, agreement or logical coherence among things is?	0.47	0.50	9005	46.6%	10315	53.4%
13	3681	Which of these is an internal developmental asset?	0.42	0.49	8171	42.0%	11294	58.0%
14	3680	Which of these is an internal developmental asset?	0.33	0.47	6387	32.8%	13061	67.2%
		Grand Mean:	**0.72**					

Table 4.6 illustrates each question related to program objective three. Frequency and percentage for all correctly and incorrectly answered questions can be found along with the mean and standard deviation for each question. At the bottom of Table 4.6 the grand mean for all six questions related to program objective one is listed as M = 0.78.

Table 4.6
Descriptive Data of Senior Quality Counts Assessment Questions for Program Objective Three Ranked by Mean

					Correct		Incorrect	
Rank	Question Number	Question	M	SD	f	%	f	%
1	3554	Quality Counts recognizes the need for good character and safe food products, and the relationship between the two?	0.92	0.28	17955	91.7%	1617	8.3%
2	3561	A fair livestock exhibitor would do which of the following?	0.88	0.33	16940	87.8%	2357	12.2%
3	3553	The first line in the FFA motto is which of these?	0.79	0.41	15334	79.3%	4005	20.7%
4	3591	Who is responsible for raising a healthy animal?	0.76	0.42	14851	76.4%	4593	23.6%
5	3552	The first line in the 4-H motto is which of these?	0.76	0.43	14595	76.0%	4606	24.0%
6	3592	Who is responsible for following label instructions for using animal care products, or medications in the food supply continuum?	0.56	0.50	10882	55.9%	8571	44.1%
		Grand Mean:	**0.78**					

Table 4.7 illustrates each question related to program objective one. Frequency and percentage for all correctly and incorrectly answered questions can be found along with the mean and standard deviation for each question. At the bottom of Table 4.7 the grand mean for all eight questions related to program objective one is listed as M = 0.76.

Table 4.7
Descriptive Data of Senior Quality Counts Assessment Questions for Program Objective Four Ranked by Mean

					Correct		Incorrect	
Rank	Question Number	Question	M	SD	f	%	f	%
1	3619	The ham is (species specific) or found only on what animal?	0.96	0.19	18681	96.1%	763	3.9%
2	3617	The brisket is (species specific) or found only on what animal?	0.91	0.29	17688	90.9%	1771	9.1%
3	3600	What should be visible in the lower quarter of a steer when it is walking?	0.82	0.38	16159	82.3%	3478	17.7%
4	3623	When you ear notch a hog's right ear it denotes what?	0.81	0.39	15980	81.4%	3657	18.6%
5	3620	The jowl is (species specific) or found only on what animal?	0.75	0.43	14392	75.1%	4771	24.9%
6	3616	What cattle breed is not typically used as a show steer?	0.73	0.44	14287	73.2%	5243	26.8%
7	3603	Which of these is the best growth indicator found on market lambs and goats?	0.57	0.50	11071	56.6%	8505	43.4%
8	3596	Cattle, sheep, and goats don’t have front top teeth, just molars in the back	0.55	0.50	10718	55.1%	8733	44.9%
		Grand Mean:	**0.76**					

Table 4.8 ranks all 110 senior Quality Counts assessment questions from highest to lowest percentages based upon questions answered correctly and incorrectly.

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
1	3619	The ham is (species specific) or found only on what animal?	4	19444	0.96	0.19	18681	96.1%	763	3.9%
2	3675	When you are showing your animal, it is important to be a good showman. Which of the following characteristics display good showmanship?	2	19565	0.96	0.20	18760	95.9%	805	4.1%
3	3564	Winning is the only way to measure success.	2	19414	0.94	0.24	18263	94.1%	1151	5.9%
4	3578	A razor blade is what type of food safety hazard?	1	19720	0.93	0.26	18320	92.9%	1400	7.1%
5	3566	Quality Counts applies outside of 4-H or FFA in our everyday life?	2	19549	0.92	0.27	18034	92.3%	1515	7.7%
6	3554	Quality Counts recognizes the need for good character and safe food products, and the relationship between the two?	3	19572	0.92	0.28	17955	91.7%	1617	8.3%
7	3617	The brisket is (species specific) or found only on what animal?	4	19459	0.91	0.29	17688	90.9%	1771	9.1%
8	3589	Who is responsible for cutting the carcass into primal and retail cuts for distribution?	1	19528	0.90	0.30	17518	89.7%	2010	10.3%
9	3721	All of this information is required on a medication label except	1	19329	0.90	0.31	17308	89.5%	2021	10.5%
10	3644	On a feed tag, this alerts you to any special concerns that may create problems.	1	19472	0.89	0.31	17414	89.4%	2058	10.6%

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
11	3715	All of this information is required on a medication label except	1	19368	0.88	0.32	17115	88.4%	2253	11.6%
12	3561	A fair livestock exhibitor would do which of the following?	3	19297	0.88	0.33	16940	87.8%	2357	12.2%
13	3575	Wood chips are what type of food safety hazard?	1	19480	0.87	0.34	16932	86.9%	2548	13.1%
14	3559	A youth showing their "care" would not do which of these?	2	19386	0.87	0.34	16828	86.8%	2558	13.2%
15	3574	Liquid pesticide residue is what type of food safety hazard?	1	19509	0.86	0.34	16830	86.3%	2679	13.7%
16	3572	E. Coli Bacteria represent what type of food safety hazard?	1	19358	0.85	0.36	16423	84.8%	2935	15.2%
17	3700	What is not a skill that you should gain from exhibiting livestock?	2	19365	0.85	0.36	16390	84.6%	2975	15.4%
18	3640	The part of the label that says "caution, or warning" tells you what?	1	19567	0.85	0.36	16551	84.6%	3016	15.4%
19	3652	The label says to treat for five days. Your first treatment is Monday and you give the last shot on Friday, which type of medicine use is being described?	1	19567	0.84	0.36	16520	84.4%	3047	15.6%
20	3579	A piece of plastic is what type of food safety hazard?	1	19321	0.84	0.36	16297	84.3%	3024	15.7%
21	3580	Any type of bacteria is what type of food safety hazard?	1	19703	0.84	0.37	16561	84.1%	3142	15.9%

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
22	3648	If you are medicating a steer and the label reads that you are to use 2 cc/100lbs. And the steer weighs 900lbs. How much medicine should you use?	1	19718	0.84	0.37	16547	83.9%	3171	16.1%
23	3653	You use a drug approved for chickens on your sheep without prescription from a veterinarian, which type of medicine use is being described?	1	19353	0.84	0.37	16191	83.7%	3162	16.3%
24	3738	All of this information is required on a feed label except	1	19481	0.84	0.37	16298	83.7%	3183	16.3%
25	3736	All of this information is required on a feed label except	1	19405	0.83	0.37	16166	83.3%	3239	16.7%
26	3600	What should be visible in the lower quarter of a steer when it is walking?	4	19637	0.82	0.38	16159	82.3%	3478	17.7%
27	3662	In the 6 C's of Success, a schedule of events is called?	2	19401	0.82	0.38	15936	82.1%	3465	17.9%
28	3594	Record keeping is vital when it comes to food (livestock) production. Producers should keep careful records of what activities?	1	19323	0.82	0.38	15856	82.1%	3467	17.9%
29	3577	Listeria Virus is what type of food safety hazard?	1	19315	0.82	0.39	15816	81.9%	3499	18.1%
30	3740	All of this information is required on a feed label except	1	19604	0.82	0.39	16031	81.8%	3573	18.2%
31	3739	All of this information is required on a feed label except	1	19543	0.82	0.39	15955	81.6%	3588	18.4%
32	3661	In the 6 C's of Success, something, such as money that is given or received as payment is termed?	2	19445	0.82	0.39	15868	81.6%	3577	18.4%

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
33	3751	All of this information is required on a feed label except	1	19426	0.81	0.39	15822	81.4%	3604	18.6%
34	3623	When you ear notch a hog's right ear it denotes what?	4	19637	0.81	0.39	15980	81.4%	3657	18.6%
35	3711	All of this information is required on a medication label except	1	19732	0.81	0.39	16007	81.1%	3725	18.9%
36	3660	In the 6 C's of Success, the combination or qualities or features that distinguishes one person, group or thing from another is?	2	19589	0.81	0.39	15850	80.9%	3739	19.1%
37	3571	Safe food is equivalent to what?	1	19521	0.80	0.40	15677	80.3%	3844	19.7%
38	3650	You decide to use a drug for pneumonia to treat your animal's ring worm without consulting a veterinarian, which type of medicine use is being described?	1	19586	0.79	0.40	15568	79.5%	4018	20.5%
39	3569	Packing plants are not required to have a Hazard Analysis & Critical Control Points (HACCP) program in place.	1	19706	0.79	0.40	15634	79.3%	4072	20.7%
40	3553	The first line in the FFA motto is which of these?	3	19339	0.79	0.41	15334	79.3%	4005	20.7%
41	3702	Lamb's and goat's dressing percent is very close, at 53% and 55% respectively.	1	19594	0.79	0.41	15511	79.2%	4083	20.8%
42	3712	All of this information is required on a medication label except	1	19510	0.79	0.41	15389	78.9%	4121	21.1%
43	3576	Oil and grease residue is what type of food safety hazard?	1	19494	0.78	0.42	15155	77.7%	4339	22.3%

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
44	3728	All of this information is required on a medication label except	1	19265	0.77	0.42	14804	76.8%	4461	23.2%
45	3733	From these choices what is the best rout for injection medication	1	19613	0.77	0.42	15055	76.8%	4558	23.2%
46	3591	Who is responsible for raising a healthy animal?	3	19444	0.76	0.42	14851	76.4%	4593	23.6%
47	3718	All of this information is required on a medication label except	1	19660	0.76	0.43	14987	76.2%	4673	23.8%
48	3583	The weight of the carcass after an animal has been harvested is referred to as the what?	1	19445	0.76	0.43	14821	76.2%	4624	23.8%
49	3552	The first line in the 4-H motto is which of these?	3	19201	0.76	0.43	14595	76.0%	4606	24.0%
50	3713	All of this information is required on a medication label except	1	19456	0.76	0.43	14708	75.6%	4748	24.4%
51	3732	From these choices what is the best route for injection medication	1	19512	0.75	0.43	14727	75.5%	4785	24.5%
52	3584	What is the name of meat harvested from sheep older than one year of age called?	1	19276	0.75	0.43	14513	75.3%	4763	24.7%
53	3620	The jowl is (species specific) or found only on what animal?	4	19163	0.75	0.43	14392	75.1%	4771	24.9%
54	3719	All of this information is required on a medication label except	1	19505	0.75	0.43	14631	75.0%	4874	25.0%
55	3642	The active ingredient on a medicine label identifies what?	1	19335	0.75	0.43	14465	74.8%	4870	25.2%
56	3723	All of this information is required on a medication label except	1	19491	0.75	0.43	14556	74.7%	4935	25.3%

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
57	3729	All of this information is required on a medication label except	1	19337	0.75	0.44	14435	74.6%	4902	25.4%
58	3701	What is the average dressing percent for swine?	1	19794	0.74	0.44	14614	73.8%	5180	26.2%
59	3649	Your animal is diagnosed with foot rot and you treat it with over the counter medication approved for foot rot, which type of medicine use is being described?	1	19311	0.74	0.44	14233	73.7%	5078	26.3%
60	3616	What cattle breed is not typically used as a show steer?	4	19530	0.73	0.44	14287	73.2%	5243	26.8%
61	3747	All of this information is required on a feed label except	1	19416	0.73	0.44	14151	72.9%	5265	27.1%
62	3707	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	1	19493	0.72	0.45	14053	72.1%	5440	27.9%
63	3716	All of this information is required on a medication label except	1	19478	0.72	0.45	13988	71.8%	5490	28.2%
64	3752	All of this information is required on a feed label except	1	19560	0.71	0.45	13953	71.3%	5607	28.7%
65	3717	All of this information is required on a medication label except	1	19499	0.70	0.46	13656	70.0%	5843	30.0%
66	3724	All of this information is required on a medication label except	1	19314	0.70	0.46	13510	69.9%	5804	30.1%
67	3705	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	1	19541	0.70	0.46	13596	69.6%	5945	30.4%

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
68	3722	All of this information is required on a medication label except	1	19632	0.69	0.46	13622	69.4%	6010	30.6%
69	3659	In the 6 C's of Success, the act or instance of selecting is referred to as?	2	19474	0.69	0.46	13438	69.0%	6036	31.0%
70	3586	What is the product after the animal is harvested called?	1	19582	0.68	0.47	13381	68.3%	6201	31.7%
71	3645	On a feed tag, this identifies the species and class of animal for which the feed is intended to be used.	1	19505	0.66	0.47	12937	66.3%	6568	33.7%
72	3730	All of this information is required on a medication label except	1	19360	0.66	0.47	12719	65.7%	6641	34.3%
73	3720	All of this information is required on a medication label except	1	19392	0.65	0.48	12568	64.8%	6824	35.2%
74	3750	All of this information is required on a feed label except	1	19532	0.65	0.48	12617	64.6%	6915	35.4%
75	3709	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	1	19486	0.64	0.48	12451	63.9%	7035	36.1%
76	3735	All of this information is required on a feed label except	1	19482	0.63	0.48	12351	63.4%	7131	36.6%
77	3749	All of this information is required on a feed label except	1	19633	0.63	0.48	12318	62.7%	7315	37.3%
78	3654	The label says to give 10cc and your vet says to give 20cc, which type of medicine use is being described?	1	19635	0.63	0.48	12305	62.7%	7330	37.3%

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
79	3588	Who is responsible for safe handling of the animal product once they get it home?	1	19334	0.62	0.49	12015	62.1%	7319	37.9%
80	3663	In the 6 C's of Success, trust or faith in a person or thing is?	2	19520	0.62	0.49	12071	61.8%	7449	38.2%
81	3725	All of this information is required on a medication label except	1	19401	0.61	0.49	11918	61.4%	7483	38.6%
82	3708	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	1	19278	0.57	0.49	11074	57.4%	8204	42.6%
83	3603	Which of these is the best growth indicator found on market lambs and goats?	4	19576	0.57	0.50	11071	56.6%	8505	43.4%
84	3592	Who is responsible for following label instructions for using animal care products, or medications in the food supply continuum?	3	19453	0.56	0.50	10882	55.9%	8571	44.1%
85	3743	All of this information is required on a feed label except	1	19372	0.56	0.50	10771	55.6%	8601	44.4%
86	3744	All of this information is required on a feed label except	1	19472	0.55	0.50	10800	55.5%	8672	44.5%
87	3726	All of this information is required on a medication label except	1	19310	0.55	0.50	10679	55.3%	8631	44.7%
88	3596	Cattle, sheep, and goats don’t have front top teeth, just molars in the back	4	19451	0.55	0.50	10718	55.1%	8733	44.9%
89	3742	All of this information is required on a feed label except	1	19434	0.54	0.50	10498	54.0%	8936	46.0%

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
90	3748	All of this information is required on a feed label except	1	19469	0.54	0.50	10425	53.5%	9044	46.5%
91	3746	All of this information is required on a feed label except	1	19489	0.53	0.50	10375	53.2%	9114	46.8%
92	3741	All of this information is required on a feed label except	1	19320	0.53	0.50	10238	53.0%	9082	47.0%
93	3587	When you calculate the carcass weight divided by the live weight times 100 you are calculating what?	1	19416	0.51	0.50	9941	51.2%	9475	48.8%
94	3706	Each of these could be conidered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	1	19400	0.51	0.50	9856	50.8%	9544	49.2%
95	3704	You can legally change the instructions for using feed or feed additives if a vet tells you to.	2	19461	0.49	0.50	9517	48.9%	9944	51.1%
96	3651	The label says "administer only to lactating females" and your veterinarian says to give it to your three week old calf, which type of medicine use is being described?	1	19485	0.48	0.50	9353	48.0%	10132	52.0%
97	3714	All of this information is required on a medication label except	1	19347	0.48	0.50	9198	47.5%	10149	52.5%
98	3664	In the 6 C's of Success, agreement or logical coherence among things is?	2	19320	0.47	0.50	9005	46.6%	10315	53.4%
99	3734	From these choices what is the best rout for injection medication	1	19439	0.47	0.50	9059	46.6%	10380	53.4%
100	3737	All of this information is required on a feed label except	1	19304	0.46	0.50	8841	45.8%	10463	54.2%

Table 4.8
Descriptive Data of Senior Quality Counts Assessment Questions Sorted by Average

							Correct		Incorrect	
Rank	Question Number	Question	Program Objective	n	M	SD	f	%	f	%
101	3593	What is the process of rendering the animal unconscious, draining the blood, and removing the head intestines and stomach as well as the hide and the shank of the animal called?	1	19543	0.45	0.50	8864	45.4%	10679	54.6%
102	3710	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except	1	19397	0.45	0.50	8776	45.2%	10621	54.8%
103	3665	How many levels of biosecurity are there?	1	19480	0.45	0.50	8680	44.6%	10800	55.4%
104	3681	Which of these is an internal developmental asset?	2	19465	0.42	0.49	8171	42.0%	11294	58.0%
105	3637	The lot number on a medicine label Identifies what?	1	19250	0.42	0.49	8029	41.7%	11221	58.3%
106	3646	On a feed tag, this is where you'll find the minimum and/or the maximum levels of essential nutrients.	1	19316	0.41	0.49	7855	40.7%	11461	59.3%
107	3585	The weight of the animal at the time of harvest is called what?	1	19664	0.38	0.49	7480	38.0%	12184	62.0%
108	3680	Which of these is an internal developmental asset?	2	19448	0.33	0.47	6387	32.8%	13061	67.2%
109	3727	All of this information is required on a medication label except	1	19595	0.32	0.47	6304	32.2%	13291	67.8%
110	3745	All of this information is required on a feed label except	1	19214	0.31	0.46	5968	31.1%	13246	68.9%

Note:(*n* = number of times question was answered)

CHAPTER V

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

The final Chapter V features a summary of the study as well as conclusions, implications and recommendations.

Purpose and Objectives

The purpose of this study was to evaluate the Quality Counts on-line training and assessment to determine whether or not participants are meeting the program objectives. Objectives for this study are:

1. Describe characteristics of 4-H and FFA members who have taken the Quality Counts Assessment.
2. Compare students who have taken the Quality Counts Assessment based on age division and club affiliation.
3. Evaluate current Quality Counts Assessment results related to program objectives to determine if curriculum improvements are needed.

Limitations of the Study

This study had two major limitations, which should be considered in interpreting the findings:

1. This study was limited to only 4-H and FFA youth exhibiting livestock at any major stock show in Texas.
2. The study was limited to Quality Counts Program Assessments on-line completers during the time period of May 7, 2011 thru September 18, 2012 only, and did not include any additional years.
3. Based on the randomly generated selection of senior age 4-H members for this study, research data reflects one single member's assessment score from that particular group.

Research Design

The research designs main purpose for this study was twofold. First was the intent to examine the effectiveness of the Quality Counts Assessment. This Assessment is a requirement for all youth exhibiting livestock at all major livestock shows in Texas. Those shows included: State Fair of Texas in Dallas, Ft. Worth Livestock Show and Exposition, San Antonio Livestock Show, San Angelo Stock Show, Houston Livestock Show and Star of Texas Livestock Show in Austin. The second purposes was to evaluate all completed assessment results of participants and their designated organization and identify relationships based on the original four research objectives determined in 2005 and to determine if curriculum improvements are needed. The research design will include descriptive research for comparing participant groups and evaluate the quality counts program to determine if participants are meeting each of the four required objectives set forth by program developers.

Population and Sample

The target population of this study was all 4-H and FFA junior and senior age youth who entered livestock at any 2012 major livestock show in Texas. Junior age youth requirements, 9 years or entered into the third grade to13 years as of August 31, 2011, senior age youth, 14-19 as of August 31, 2011. The population of this study represented all participants who completed the on-line assessment during May 7, 2011 thru September 18, 2012. Therefore according to Quality Counts Program database records there were 18,540 junior aged youth and 75, 172 senior aged youth for a combined total of 93,725 completers (Chilek, 2012). Due to the large population size for this study, a suggested sample size would need to be determined. After much research of reliable resources for suggested sample sizes, it was determined to utilize the recommendations provided by Pennsylvania State University (Extension P. S.), publication entitled: *How to Determine a Sample Size* .The publication suggests when utilizing 95% confidence level with a

+/- 5% margin of error at a variability of 50% with population size of 4,000-100,000 it is recommended to utilize as sample size of 58 (Extension P. S,) Therefore findings indicated in tables 4.1 and 4.2 are based on 58 junior aged Quality Counts assessment completers as well as 58 senior aged junior completers. The Random Number Generator (Random. Org, 1998-2012) was utilized for the selection of the 58 for each age division.

When analyzing the junior aged assessment scores it was determined that the group was homogeneous, meaning scores were fairly close to one another. Therefore only the senior age division descriptive data found in tables 4.3, 4.4 and 4.5 were the focus for this study. Quality Counts completers may take the assessment as many times as needed to achieve a passing score of 80% or higher. Therefore for this study a total of 107,061 senior assessment score attempts were analyzed.

Instrument

The assessment instrument used for this study had already been developed by Quality Counts Program developers and is the required instrument for all completers. This on-line system is equipped with separate junior and senior aged assessments. The junior aged assessment is composed of a randomly computer generated 10 question exam. The senior aged assessment is composed of a randomly computer generated 20 question exam. For each assessment, a set of questions may range from true/false; fill in the blank or multiple choices. The junior age assessment database contains a total of 92 questions and the senior age assessment database contains a total of 110 questions. A copy of the instrument is located in Appendix C.

All participants must pass with an 80% or better. Each question is worth five points. If a participant does not pass then retakes may be taken as many times as needed. However with each retake, new random questions may appear. Once a completer has passed the assessment then a

certificate of completion will appear along with an assigned certificate of completion number. This verification number is a required item for recoding at the time of official entries to any major livestock show in Texas.

Institutional Review Board

Upon determining the nature of the study the researchers submitted the proposal to the Texas Tech University Human Research Protection Program (HRPP). The proposal was submitted on April 18, 2013 and notified by e-mail of official approval on April 23, 2013. A copy of the e-mail received is located in Appendix B.

Collection of Data

All data was collected through a central data base storage system operated under the direction of the Texas A&M AgriLife Extension Service State 4-H Program Office in College Station, Texas. Data analysis will be collected from the assessment instrument based on the percentage of questions participants answers correct or incorrectly and will be analyzed by using sums, averages, means and standard deviations. All published data did not revile any names or identifiers of participants. Additionally, throughout the course of this study at no time was there interaction with any participants.

Analysis of Data

For this study all Quality Counts Assessment data had already been collected and made available through the Texas A&M AgriLife Extension State 4-H Office located on the Texas A&M University Campus in College Station, Texas. All data access has been granted through permission of Dr. Chris Boleman who has agreed to the release of all resources and needed materials for this study. SPSS for windows software version ten was used to calculate the data analysis for this particular study except where pre coding was needed so that groups and their relationships could be measured.

Summary of Findings and Conclusions

Research Objective One

Research objective one sought to identify characteristics of 4-H and FFA members who have taken the Quality Counts assessment during the time period of May 7, 2011 to September 18, 2012. According to recommendations from the Pennsylvania State University publication, *How to Select a Random Sample Size* (Extension P. S), a randomly selected 58 junior and 58 senior Quality Counts completers were utilized and are indicated in Tables 4.1 and 4.2. Table 4.1, includes the number of individual youth member from recommended sample size of 58 and their selected choice of organization i.e. 4-H or FFA, or both along with represented percentage of those respected groups.

For research objective one, there are two key conclusions that can be made. First, this study's research data finds that the majority (43.10%) of those who have taken the Quality Counts Assessment at the junior age level are members who indicated 4-H as their only organization. Secondly, and interestingly enough the research data also finds that the majority (79.31%) at the senior age level indicated FFA as their only organization. Therefore research data in Table 4.1 helps support conclusion that junior aged Quality Counts completers are more than likely participating and being informed about the Quality Counts program and requirements through County Extension Offices and the many 4-H programs throughout Texas. On the other hand, as youth advance to senior age level they appear to become involved in local high school FFA programs and are more than likely receiving their Quality Counts information through their local FFA chapters.

Research Objective Two

Research objective two's goal was to compare assessment scores of junior and senior 4-H and FFA member groups who have taken the Quality Counts assessment during the time period

of May 7, 2011 to September 18, 2012. Characteristics of these groups were gathered and measured and can be found in Table 4.2. Participants were asked to select their choice of organizational membership i.e. 4-H member, FFA member, or both organizations along with appropriate age division i.e. junior or senior.

Research objective two concluded that assessment scores at the junior age level where were fairly comparable i.e. FFA (*M* = 85%), 4-H (*M* = 85.6) and FFA/4-H *(M* =90%). However when comparing assessment scores at the senior age level scores relieved FFA (*M* = 70.4%) and 4-H *(M* = 90%), and FFA/4-H (M = 80.90%). Again, keep in mind the randomly generated selection process assigned only one senior 4-H member to the group. Research data obtained in Table 4.2 supports the conception that perhaps senior age FFA participants may not be as informed or receiving the level of Quality Counts instruction needed to achieve higher percentages of assessment scores.

Research Objective Three

The final research objective of this study was to evaluate Quality Counts Assessment results to related program objectives to determine if curriculum improvements are needed. For this research objective there were three main components. Each component featured a separate table to illustrate all findings.

The first component for research objective three, Table 4.3 represents the number of senior assessment questions related to a specific program objective and the percentage of correct and incorrect answers per objective. Program Objective One: To insure that animals raised in 4-H & FFA livestock projects meet all food quality and safety standards (*n* = 82; *correct* = 68.8%, *incorrect* = 31.2%); Program Objective Two: To provide character education for Texas youth who participate in 4-H & FFA livestock projects (*n* = 14; *correct* = 71.4%, *incorrect* = 28.6%);

Program Objective Three: To maintain a positive image of youth livestock programs (*n* = 6; *correct* = 77.9%, *incorrect* = 22.1%); Program Objective Four: To assess knowledge of general animal science (*n* = 8, *correct* = 76.3%, *incorrect* = 23.7%).

Conclusions for the first component of research objective three determined the most frequently correct and incorrect answered questions from the 110 data base senior assessment questions. The research data concluded that 74.54% of a senior age assessment is directly related to program objective one (*answered correct* = 68%, *answered incorrect* = 31.2 %.). Adding 12.72% of the questions are related to program objective two (*answered correct* = 71.4%, *answered incorrect* = 28.6%). Whereas only 5.45% of the questions are related to program objective three (*answered correct* = 77.9%, *answered correct* = 22.1%). Finally, 7.27% of the questions are related to program objective four (*answered correct* = 76.3%, *answered correct* = 23.7%). This research data concludes that senior assessment questions need to be distributed more equally among all program objectives.

The second component for research objective three is illustrated in Tables 4.4, 4.5, 4.6 and 4.7. Table 4.4 illustrates each question related to program objective one. Frequency and percentage for all correctly and incorrectly answered questions can be found along with the mean and standard deviation for each question. A total of 82 questions were directly related to program objective one.

Conclusion for second component shown in Table 4.4 that the top nine ranking questions for program objective one contained average assessment scores ranging from 93% to 85%. Additionally all questions for program objective one indicated a grand mean score (M = 0.69).

Table 4.5 illustrates each question related to program objective two with a total of 14 related questions. For program objective two the top five questions resulted in average assessment scores ranging from 96% to 85% with a grand mean score (*M* = 0.72).

Table 4.6 illustrates each question related to program objective three with a total of six related questions. This data indicated the two questions with average assessment scores ranging from 92% to 88% with a grand mean score (*M* = 0.78).

Table 4.7 illustrates each question related to program objective four with a total of eight related questions. This data concluded that the top two questions had average assessment scores ranging from 96% to 91% with a grand mean score (*M*= 0.76).

The third and final component for research objective three is Table 4.8 ranks all senior assessment questions from highest to lowest percentages based upon questions answered correctly and incorrectly. The highest-ranking top three questions were: Question *3619,* The ham is (species specific) or found only on what animal? (*correct* = 96.1%, *incorrect* = 3.9%); Question *3675,* When you are showing your animal, it is important to be a good showman. Which of the following characteristics display good showmanship? (*correct* = 95.9%, *incorrect* = 4.1%); Question *3564,* Winning is the only way to measure success? (*correct* = 94.1%, *incorrect* = 5.9%). The lowest ranking three questions were: Question *3745,* All of this information is required on a feed label except? *(correct* = 31.1%, *incorrect* = 68.9%); Question *3727,* All of this information is required on a medication label except (*correct* = 32.2%, *incorrect* 67.8%); Question *3680,* Which of these is an internal developmental asset? (*correct* = 32.8%, *incorrect* 67.2%).

This research data concludes a clear understanding of those questions that are answered correctly most frequent no matter what their objective category may be. For example the highest

ranked assessment question that provided the most correctly answer is Question *3619* (*correct* = 96.1%). The lowest ranked question provided the most often provided incorrect answer is Question *3745*, (*incorrect* = 68.9%). This research data concludes those assessment completers who are received effective teaching as evident from assessment scores and also provides indicators where improvements are needed in training and question wording.

Recommendations for Quality Counts Program Development

This Quality Counts study is the first to have ever been researched. Obviously much more research is needed to strengthen the Quality Counts educational process. The following are suggestions for needed improvement related to Quality Counts program development.

1) At time of participant on-line login to Quality Counts, incorporate more gender information such as male/ female, specific age, project interest, number of years exhibited livestock, and what attempt is this for you in taking the assessment. This information will assist in providing more in-depth research can be conducted regarding participant gender and demographics.
2) The use of a different collection database system will help increase the effectiveness of the Quality Counts Program for both 4-H and FFA members.
3) The original Quality Counts Program objectives need to be reviewed and researched. Additionally a more equal number of questions relative to objectives need to be distributed within each assessment. Currently too many questions are in one objective. Example: Currently 82 of 110 relate to Quality Counts program objective one which is, To insure that animals raised in 4-H and FFA livestock projects meet all food quality and safety standards.

4) More extensive research needs to be conducted regarding the Quality Counts Assessment Questions. Many are difficult to understand and changing of words need to be developed.
5) Develop a table of specifications for Quality Counts program and assessment requirements. This may include specific subject matter topics along with timeline for completion of each.
6) Develop separate Quality Counts program, training, and assessment requirements for youth planning to exhibit livestock at county show only.

Recommendations for Future Study

The following is a list of suggested recommendations for future studies regarding the Quality Counts program and assessment.

1) Future study needs to be conducted to compare those participants who receive training via on-line verves those who receive training fact-to-face instruction.
2) Continued research is needed to determine how Quality Counts completers are receiving their training. Is it effective? Or do Quality Counts program changes need to occur?
3) Research should be conduct that supports the need for constant and continual updating of the Quality Counts Training and Assessment. This could be conducted by an annual review of completer's assessment scores.
4) It is suggested that all Major Livestock Shows in Texas become involved and conducts their own research for exhibitors who attending their show to help further support and determine if exhibitors are actually learning from the Quality Counts Program.

5) For future Quality Counts studies, researchers should utilize a stratified random sample for determining sample size.

REFRENCES

Random. Org. (1998-2012). Retrieved June 5, 2013, from Random.Org: www.random.org.

Character Counts! Works And here are the numbers to prove it. (2007). Retrieved November 25, 2012, from Character Counts: http://charactercounts.org/pdf/CC-evidence.pdf

Quality Counts. (2011). Retrieved November 8, 2012, from Texas A&M AgriLife Extension: http://agrilifecdn.tamu.edu/qualitycounts/files/2010/11/EDIT-MAY-19-PRESS-RELEASE.pdf

General Information. (2012). Retrieved December 9, 2012, from Texas ffa: http://www.texasffa.org/page.aspx?ID=89

History. (2012). Retrieved December 9, 2012, from FFA history: http://www.absarokee.k12.mt.us/clubs/ffa/ffahistory.html

International Association of Fairs & Expositions. (2012). Retrieved November 27, 2012, from The history of fairs: http://www.fairsandexpos.com/aboutiafe/history/

Texas 4-H and Youth Development. (2012). Retrieved December 9, 2012, from History of 4-H: http://texas4-h.tamu.edu/learn/learn_history

Texas FFA Agricultural Facts. (2012). Retrieved December 9, 2012, from My Texas ffa. org: http://mytexasffa.org/sites/default/files/TexasFFA_Fact_Sheet.pdf

4-H Youth Development. (2012). *Character Education*. Retrieved November 9, 2012, from Character Education/ 4-H Youth Development: 4h.msue.msu.edu/4hcharter_eduction

Boleman.C. T., Cummins, S. R., Briers, G. E. (2004). Prents perception of life skills gained by youth participanting in the 4-H beef project. *Journal of Extension* .

Boone, J. Edgar, Safrit, Dale, R., Jones, Jo. (2002). *Developiin Programs in Adult Educaiton.* Long Grove, IL: Waveland Press, Inc.

Borden, R. (2005). *Historic Brazos County: An Illustrated History.* San Antonio: Historic Publishing Network.

Character Counts. (n.d.). Retrieved November 8, 2012, from Josephson Institute Center for Youth Ethics: http://charactercounts.org/overview/faq.html#WhatIs

Character Educaton. (n.d.). Retrieved November 9, 2012, from Michigan State Universtiy Extension : 4h.msue.msu.edu/4h/character_education

Chileck, D. K. (2012, November 14). Assistant Profesor & Extension Program Specialist, 4-H Southest Distric 9 . (J. Ragland, Interviewer)

Council, N. 4.-H. (2012). *Hisotry .* Retrieved December 9, 2012, from 4-H frequently asked questions: http://www.4-h.org/about/4-h-history/faq/

Davis, C., Keith, L., Williams, K., Fraze, S. (2001). Retrieved November 27, 2012, from Validation the precieved benefits of competitive livestock exhibition by theTexas 4-H members: A qualitiative study: http://pubs.aged.tamu.edu/jsaer/vol50whole.pdf#page=119

Extension, P. S. (n.d.). *How to Determine a Sample Size .* Retrieved June 5, 2013, from Pennsylvania State Coopertive Extension Program Evaulation Tip Sheet #60 : http://enxtension.psu.edu/evaluation/pdf/TS60.pdf

Extension, T. A. (2013). *What Is Extension?* College Station, Texas: AgriLife Communications.

Gibson, T. L. (2001). *Coopertive Extension Program Planning in Wisconsin.* Madison, Wisconsin: Cooppertive Extension, University of Wisconsin.

Harms, K., Fritz, S. (2001). Internalization of Character Traits by Those Who Teach Character Counts! *Journal of Extension*.

Helwig, C. T. (1997). *Character Education After the Bandwagon has Gone.* Retrieved November 9, 2012, from Charter Education After the Bandwagon has Gone: http://tigger.uic.edu/~lnucci/MoralEd/articles/helwig.html

Helwig, Charles. (1997). Retrieved November 24, 2012

History. (2012). *History*. Retrieved December 9, 2012, from FFA History: http://www.absarokee.k12.mt.us/clubs/ffa/ffahistory.html

History of 4-H. (n.d.). Retrieved November 8, 2012, from Texas 4-H and Youth Development : texas4-h.tamu.edu/learn/learn_history

Learn About 4-H. (n.d.). Retrieved November 8, 2012, from Texas 4-H & Youth Development: http://texas4-h.tamu.edu/learn

Mission and Motto. (n.d.). Retrieved November 8, 2012, from National FFA Organization : https://www.ffa.org/about/whoweare/Pages/MissionandMotto.aspx

Nash, S.A., Sant L.L. (2005). Life-skill development found in 4-H animal judging. *Journal of Extension*.

National 4-H Council . (2012). *Hisotry.* Retrieved December 9, 2012, from 4-H frequently asked questions: http://www.4-h.org/about/4-h-history/faq/

Nold, R., & Hanson, D. (2001). Effectiveness of Quality Assurance Training for Youth. *Journal of Extension* .

(n.d.). *Organizational Development.* College Station, Texas : Department of Agricultrureal Leadership, Educaiton & Communicaitons .

Rasmussen, W. D. (1989). *Taking the University to the People: Seventy-Five Years of Cooperative Extension.* Ames, Iowa: Iowa State University Press.

Research, O. o. (2013). *Human Research Protection Program* . Retrieved May 21, 2013, from Texas Tech University Office of the Vice President For Research : http://www.depts.ttu.edu/vpr/irb/index.php

Ripley, J. (2012, November 9). Assistant Professor and Extension Specialist. (J. D. Ragland, Interviewer)

Ripley, J. C. (n.d.). *Creating Excellent Programs.* College Station, Texas: Texas A&M AgriLife Communications.

Ripley, J., Cummings, S., Lockett, L., Pope, P.,Wright, M., Payne, M., Keith, L., Murphery, T. (n.d.). *Creating Excellent Programs.* College Station, Texas: Texas A&M AgriLife Communications.

Ritter, E. (n.d.). *The USDA and Land-Grant University System Partnership in Support Of Coopertive Extension: A Breif Historical Overview.* College Station, Texas: Texa AgriLife Extension.

Rusk, C.P., Martin, C. A., Talbert, B. A., Balschweid, M. A. (2002). Attributes of Indiana's 4-H livestock judging program. *Journal of Extension* .

Smith, K., Phillips, T., Boleman, C., Chilek, K., Coufal, D., Keith, L., et al. (2011). *Quality Counts: Quality Assurance, Character Education.* College Station, Texas: AgriLife Extesion Bookstore.

Texas 4-H and Youth Development. (2012). *Texas 4-H and Youth Development*. Retrieved December 9, 2012, from History of Texas 4-H: texas4-h.tamu.edu/learn/learn_history

Ward, C. K. (1996). Life skills development related to participantion in 4-H animal science projects. *Journal of Extension* .

Wessel, T. & Wessel, M. (1982). *4-H : An American idea 1900-1980, A history of 4-H.* Chevy Chase, MD: National 4-H Council.

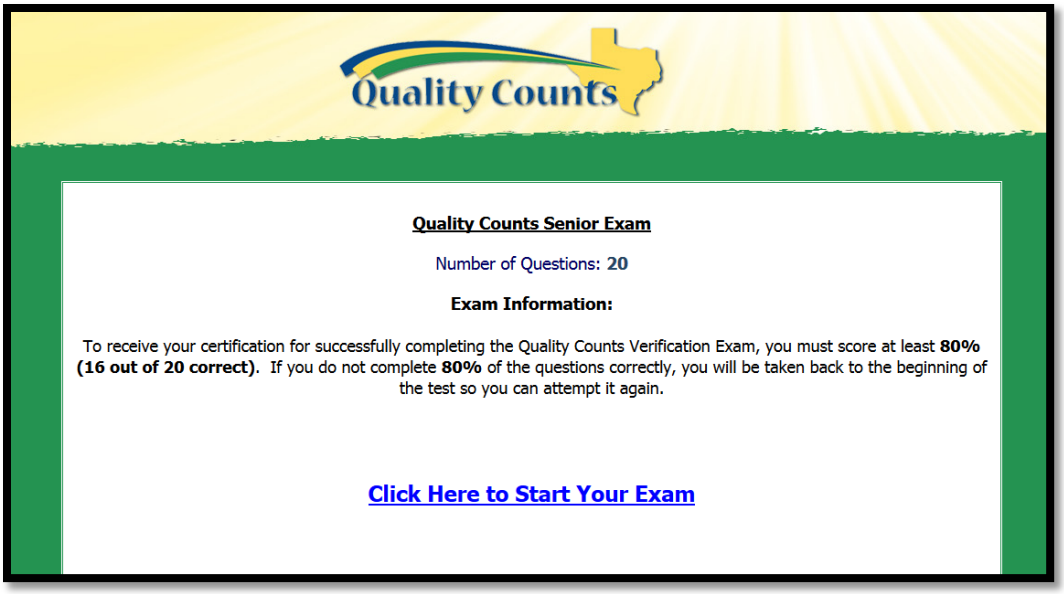
What is Extension? (n.d.). Retrieved November 8, 2012, from Texas A&M AgriLife Extension Service: http://agrilifeextension.tamu.edu/about/

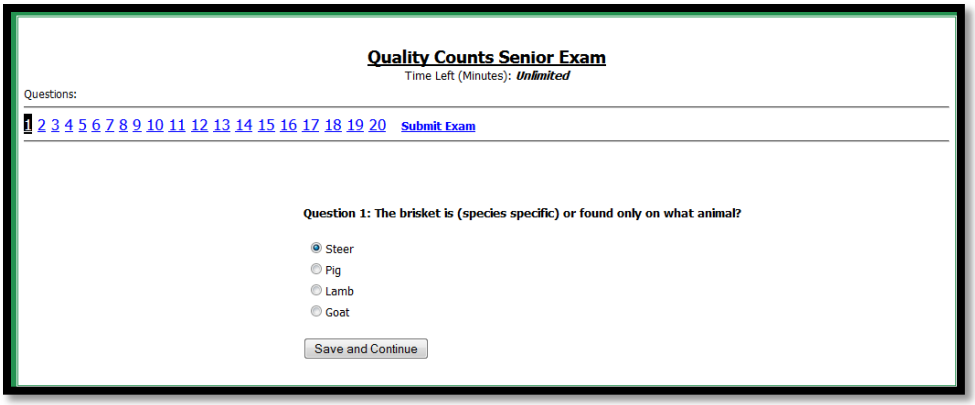
APPENDIX A

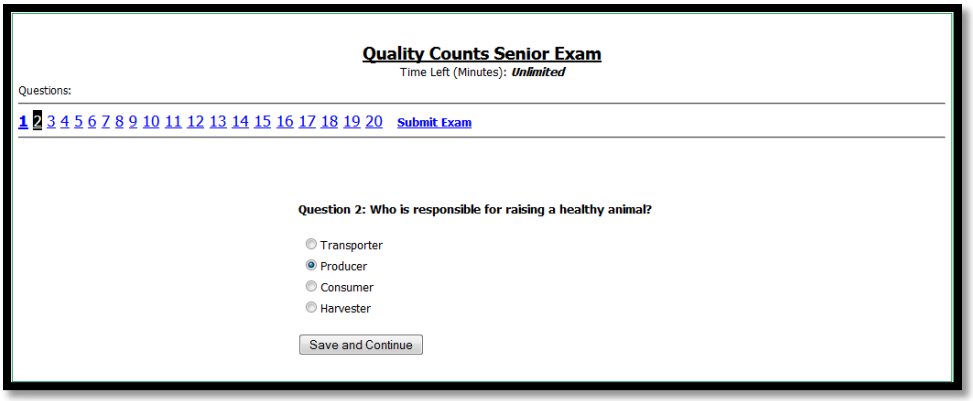
QUALITY COUNTS ASSESSTMENT INSTRUMENT

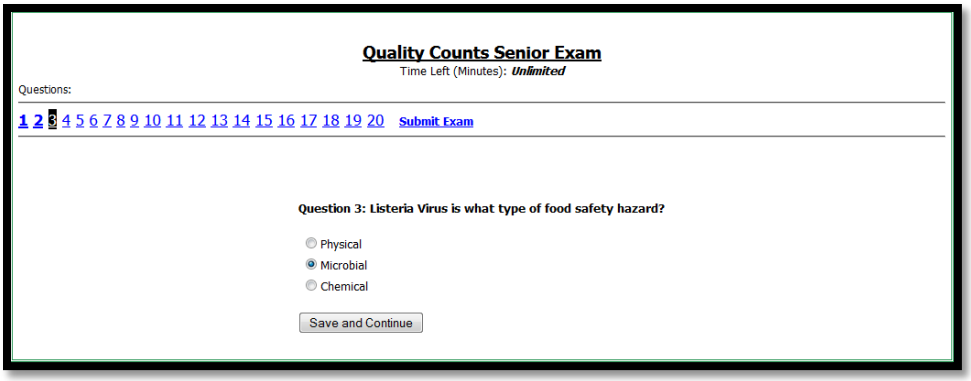

Quality Counts
Choose below which organization you are a member of
4-H
FFA
4-H & FFA

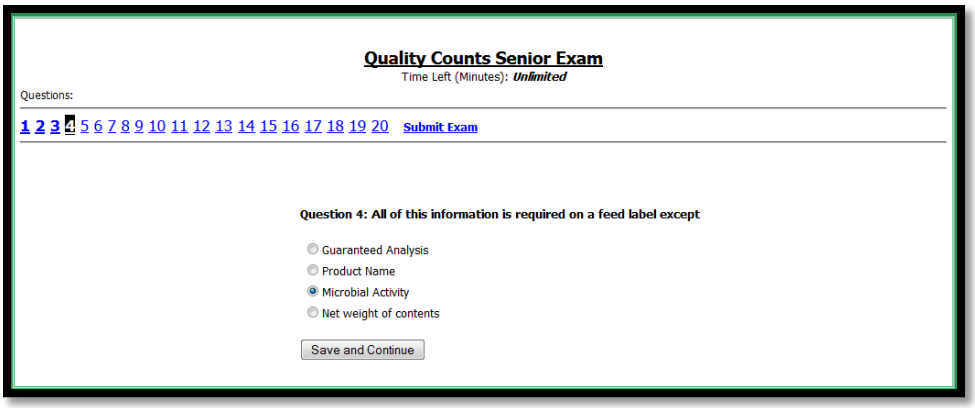

I am a member of 4-H ONLY
First Name:
John
Last Name:
Doe
Birthday:
(mm/dd/yyyy)
03/02/1999
County:
Randall Co.
Next

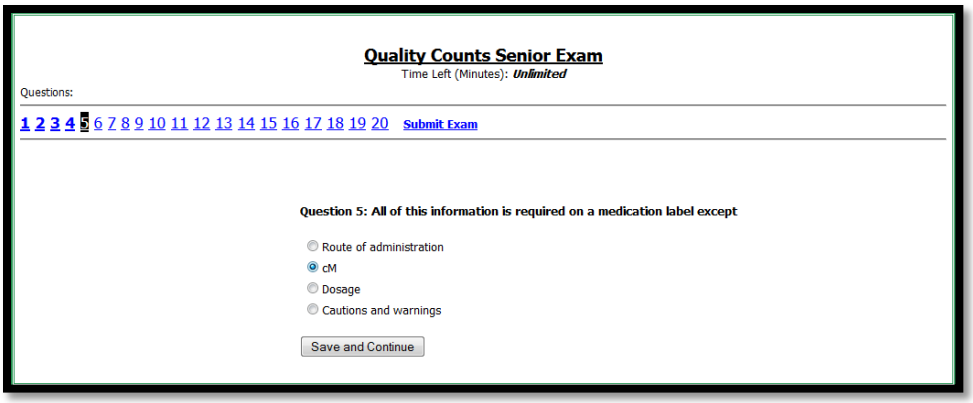

Quality Counts
Quality Counts Senior Exam
Number of Questions: 20
Exam Information:
To receive your certification for successfully completing the Quality Counts Verification Exam, you must score at least 80% (16 out of 20 correct). If you do not complete 80% of the questions correctly, you will be taken back to the beginning of the test so you can attempt it again.
Click Here to Start Your Exam

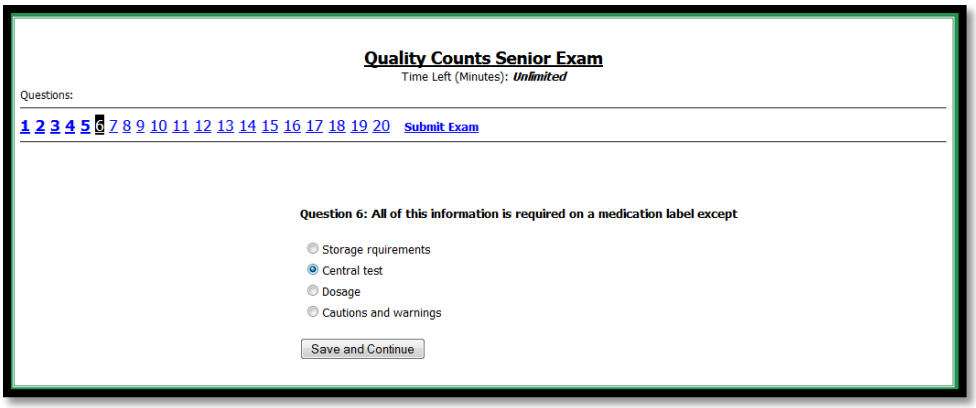

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 1: The brisket is (species specific) or found only on what animal?
Steer
Pig
Lamb
Goat
Save and Continue

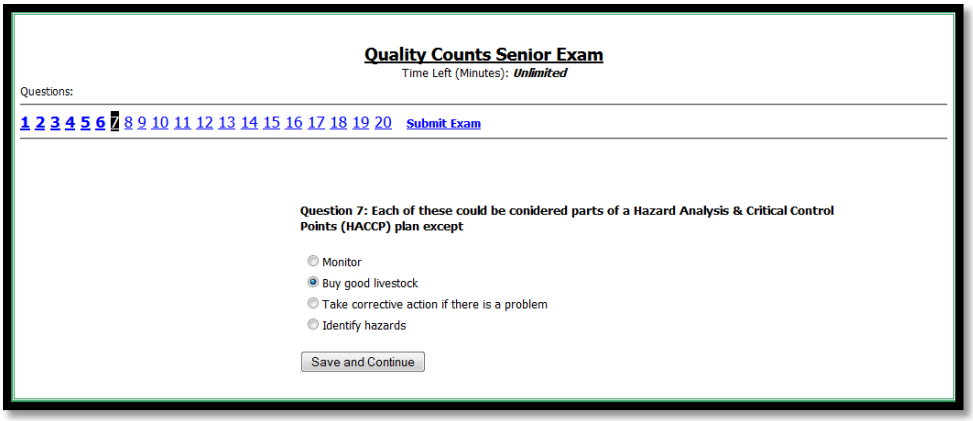

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 2: Who is responsible for raising a healthy animal?
Transporter
Producer
Consumer
Harvester
Save and Continue

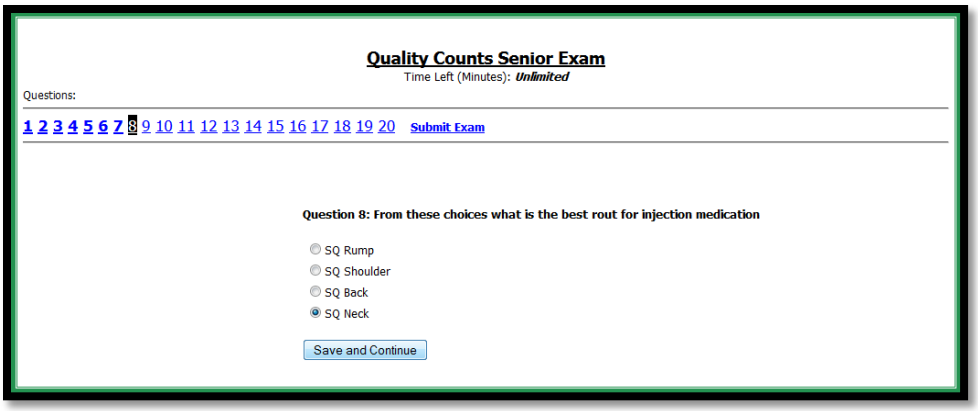

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 3: Listeria Virus is what type of food safety hazard?
Physical
Microbial
Chemical
Save and Continue

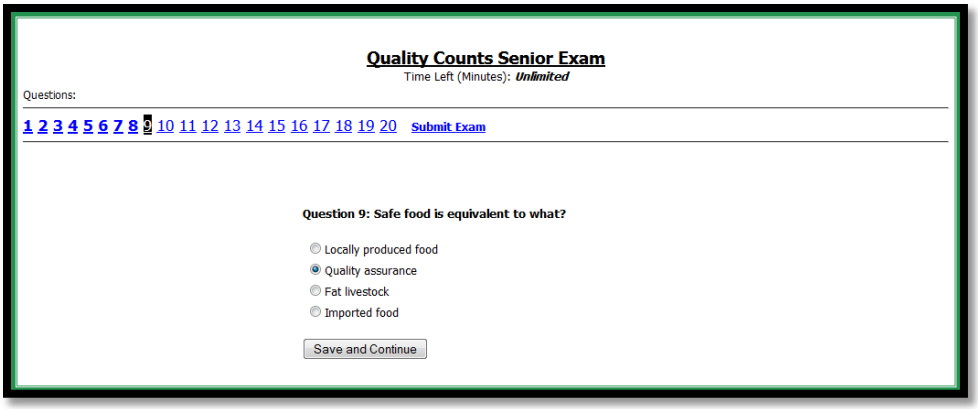

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 4: All of this information is required on a feed label except
Guaranteed Analysis
Product Name
Microbial Activity
Net weight of contents
Save and Continue

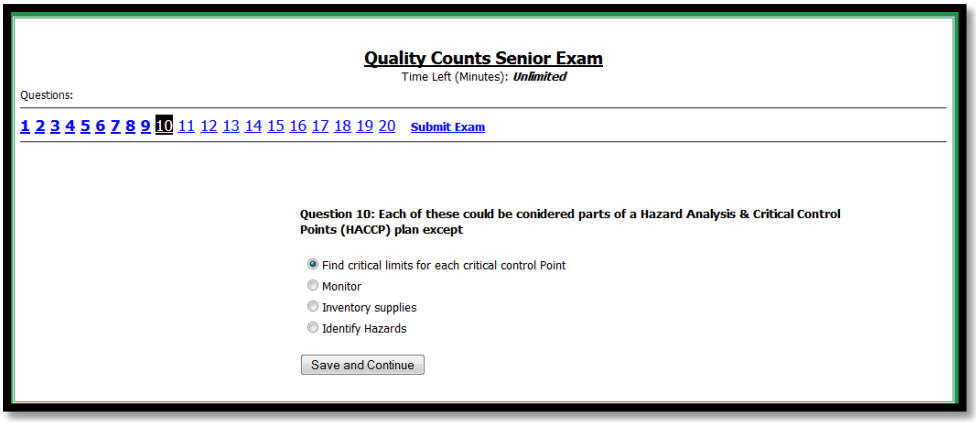

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 5: All of this information is required on a medication label except
Route of administration
cM
Dosage
Cautions and warnings
Save and Continue

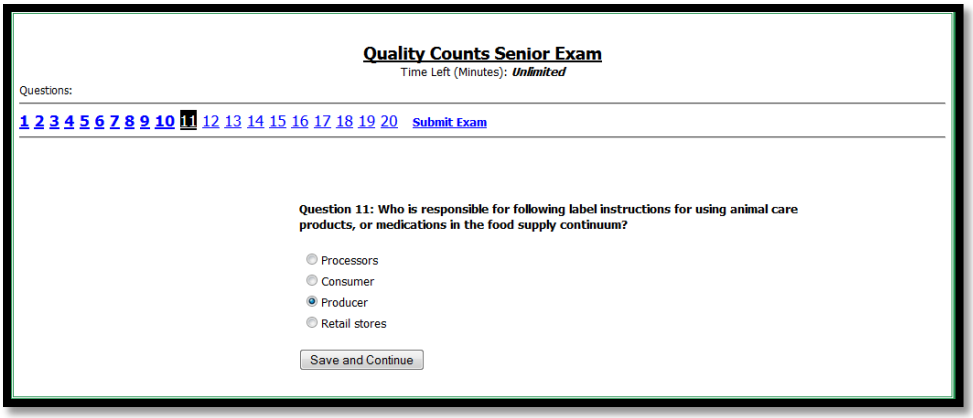

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 6: All of this information is required on a medication label except
Storage rquirements
Central test
Dosage
Cautions and warnings
Save and Continue

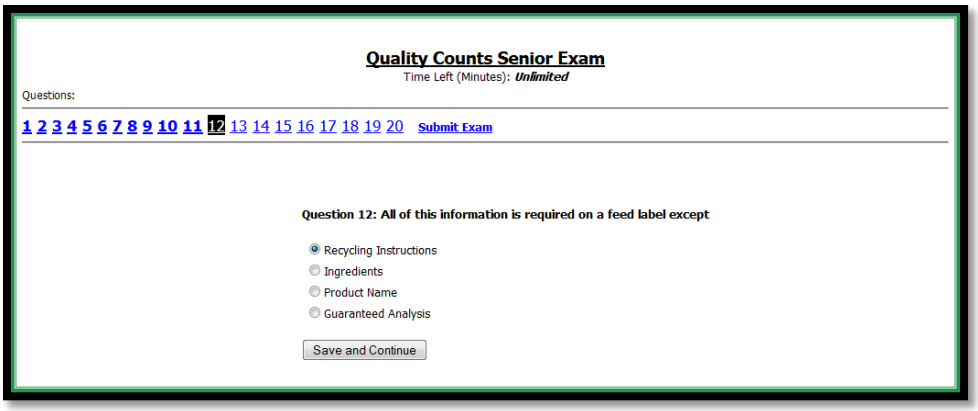

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 7: Each of these could be conidered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except
Monitor
Buy good livestock
Take corrective action if there is a problem
Identify hazards
Save and Continue

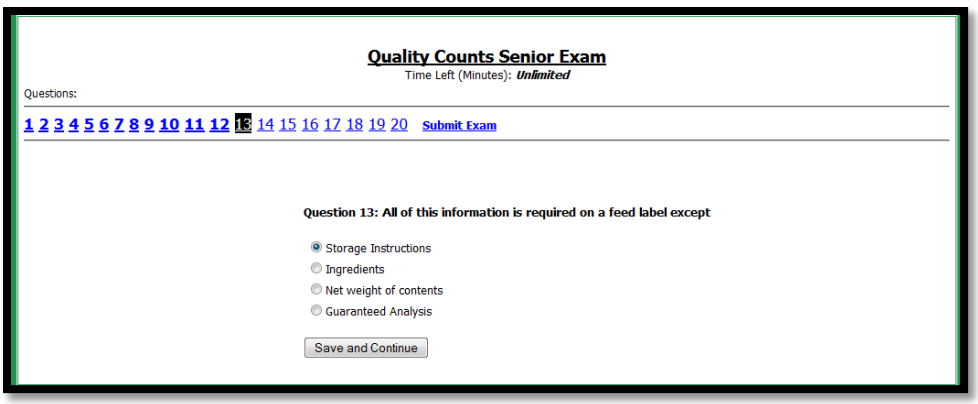

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 8: From these choices what is the best rout for injection medication
SQ Rump
SQ Shoulder
SQ Back
SQ Neck
Save and Continue

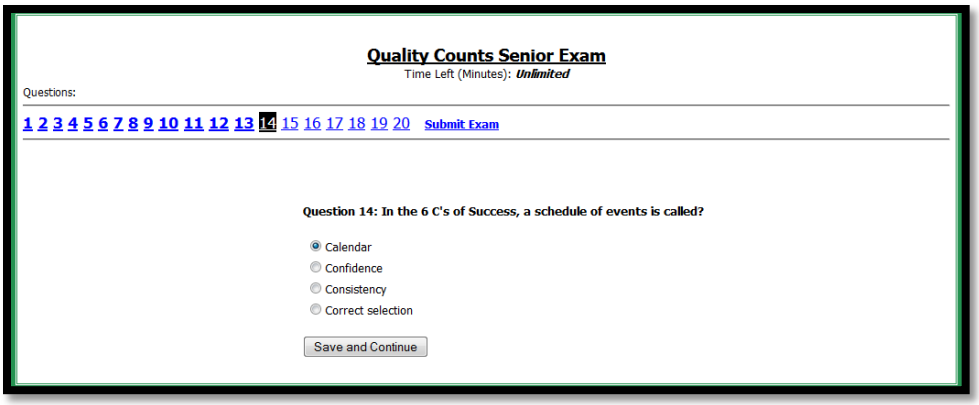

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 9: Safe food is equivalent to what?
Locally produced food
Quality assurance
Fat livestock
Imported food
Save and Continue

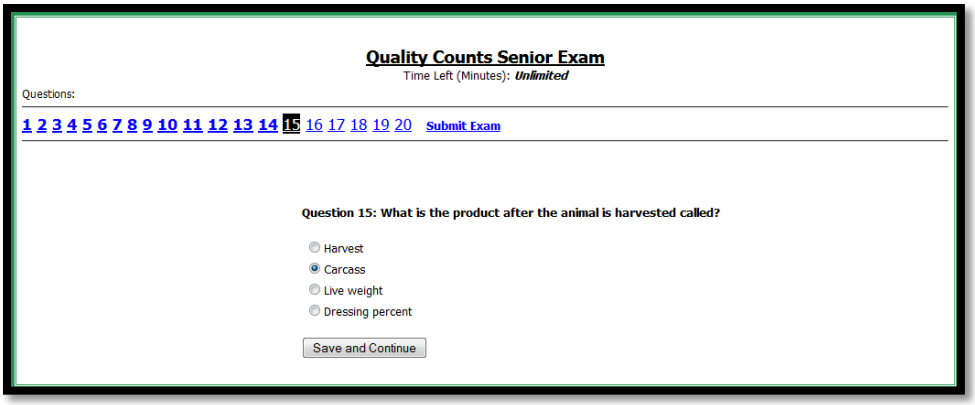

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 10: Each of these could be conidered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except
Find critical limits for each critical control Point
Monitor
Inventory supplies
Identify Hazards
Save and Continue

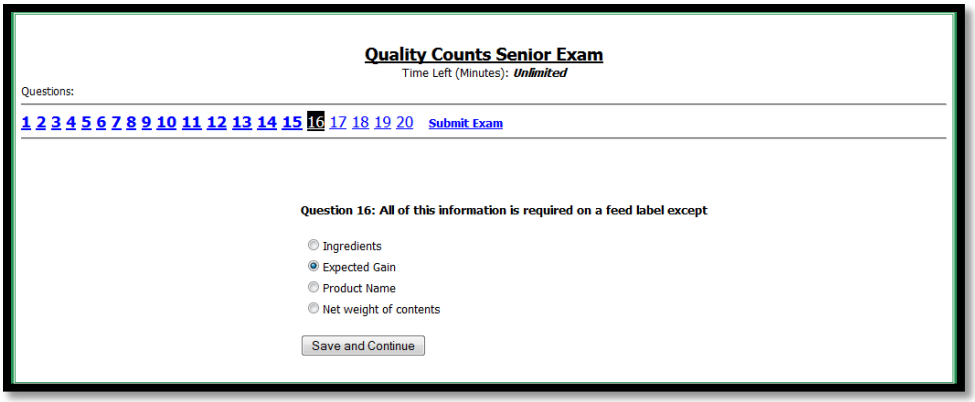

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 11: Who is responsible for following label instructions for using animal care products, or medications in the food supply continuum?
Processors
Consumer
Producer
Retail stores
Save and Continue

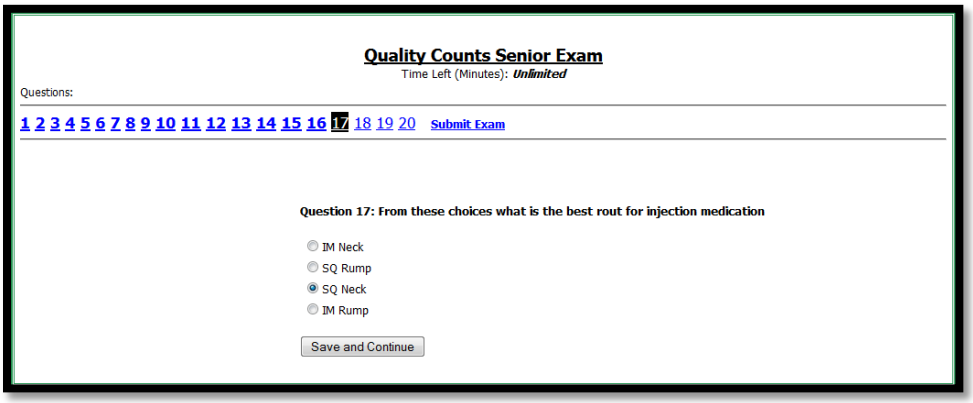

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 12: All of this information is required on a feed label except
Recycling Instructions
Ingredients
Product Name
Guaranteed Analysis
Save and Continue

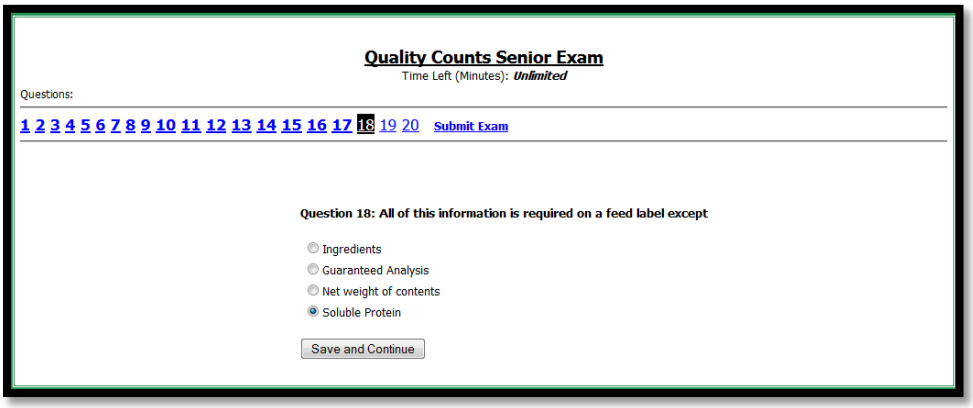

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 13: All of this information is required on a feed label except
Storage Instructions
Ingredients
Net weight of contents
Guaranteed Analysis
Save and Continue

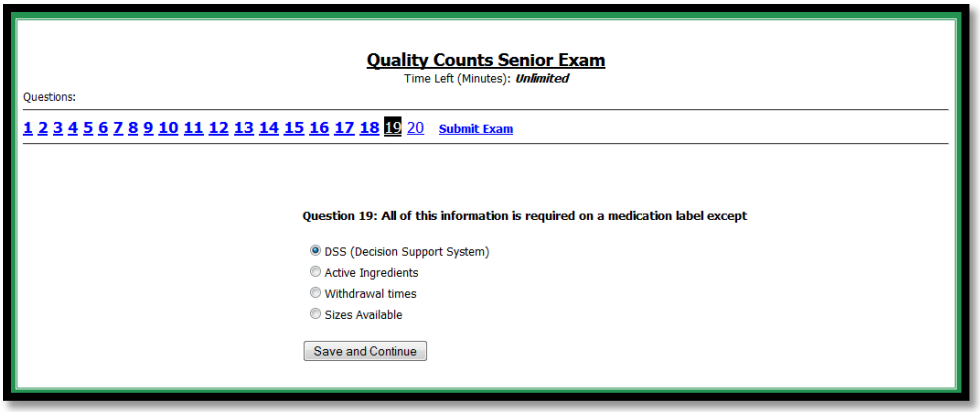

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 14: In the 6 C's of Success, a schedule of events is called?
Calendar
Confidence
Consistency
Correct selection
Save and Continue

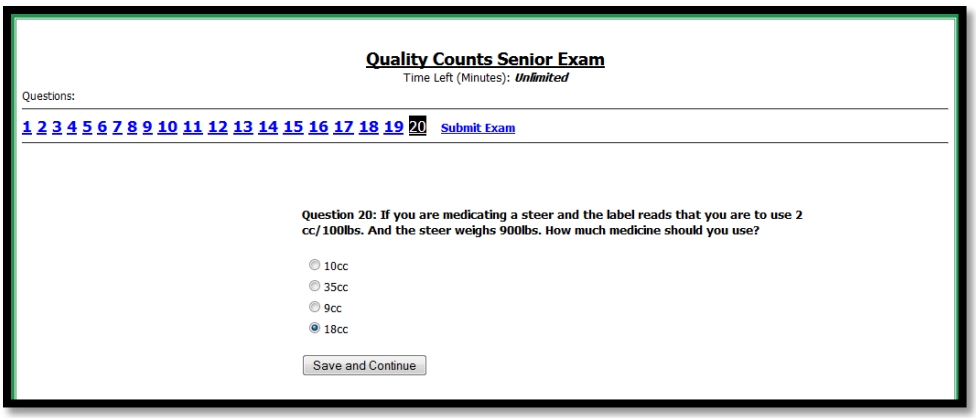

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 15: What is the product after the animal is harvested called?
Harvest
Carcass
Live weight
Dressing percent
Save and Continue

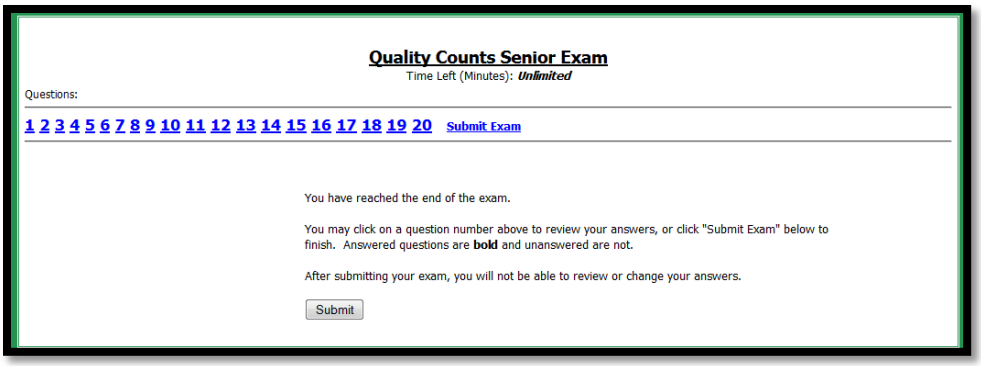

Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 16: All of this information is required on a feed label except
Ingredients
Expected Gain
Product Name
Net weight of contents
Save and Continue


Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 17: From these choices what is the best rout for injection medication
IM Neck
SQ Rump
SQ Neck
IM Rump
Save and Continue


Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 18: All of this information is required on a feed label except
Ingredients
Guaranteed Analysis
Net weight of contents
Soluble Protein
Save and Continue


Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 19: All of this information is required on a medication label except
DSS (Decision Support System)
Active Ingredients
Withdrawal times
Sizes Available
Save and Continue


Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
Question 20: If you are medicating a steer and the label reads that you are to use 2 cc/100lbs. And the steer weighs 900lbs. How much medicine should you use?
10cc
35cc
9cc
18cc
Save and Continue


Quality Counts Senior Exam
Time Left (Minutes): Unlimited
Questions:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Submit Exam
You have reached the end of the exam.
You may click on a question number above to review your answers, or click "Submit Exam" below to finish. Answered questions are bold and unanswered are not.
After submitting your exam, you will not be able to review or change your answers.
Submit

Quality Counts Senior Exam
Confirmation #220694

You have successfully completed the Quality Counts Verification Exam.
Please print the Confirmation Page below for your certificate and confirmation number.

John Doe

Score: **95** %

Correct: **19**
Incorrect: **1**
Skipped: **0**

Total Questions: **20**

Show My Responses

Print Quality Counts Certificate of Completion

CERTIFICATE OF COMPLETION

This document certifies that

John Doe

has successfully completed the Quality Counts Senior Exam on
Monday, April 29, 2013

Certificate #220694

APPENDIX B

INSTITUTIONAL REVIEW BOARD APPROVAL

From: Peters, Donna [donna.peters@ttu.edu]
Sent: Tuesday, April 23, 2013 11:59 AM
To: Fraze, Steven; JD Ragland
Cc: Lucey, Esther
Subject: IRB 503937 A Study of Texas Youth Livestock Exhibitors...

Dr. Steve Fraze and J.D. Ragland:

I am reviewing your human subjects research proposal entitled, "A Study of Texas Youth Livestock Exhibitors Knowledge Within the Constructs of the Quality Counts Assessment." Your proposal indicates that the data you will be working with has no names or identifiers. The Texas A&M AgriLife Extension State 4-H Office has already collected the data and agreed to share de-identified data with you. You do not have any interaction or intervention with human subjects nor will you be collecting any personal or private information from the subjects. According to federal regulations (45 CFR 46.102) we can determine that your research does not need IRB review and approval. I will close your proposal file.

I hope your project goes well.

Donna

Donna Peters, CIP
Manager, Human Research Protection Program
Office of the Vice President for Research
Texas Tech University
357 Administration Building, Box 41075
Lubbock, TX 79409-1075
806-742-2064

Beginning April 1, the HRPP Office will designate Wednesdays as confidential work days and have closed office doors. Researchers can continue to submit IRB proposals by campus mail.

APPENDIX C

SENIOR ASSESSMENT QUESTIONS

Question #		Question
1	3552	The first line in the 4-H motto is which of these?
2	3553	The first line in the FFA motto is which of these?
3	3554	Quality Counts recognizes the need for good character and safe food products, and the relationship between the two?
4	3559	A youth showing their "care" would not do which of these?
5	3561	A fair livestock exhibitor would do which of the following?
6	3564	Winning is the only way to measure success.
7	3566	Quality Counts applies outside of 4-H or FFA in our everyday life?
8	3569	Packing plants are not required to have a Hazard Analysis & Critical Control Points (HACCP) program in place.
9	3571	Safe food is equivalent to what?
10	3572	E. Coli Bacteria represent what type of food safety hazard?
11	3574	Liquid pesticide residue is what type of food safety hazard?
12	3575	Wood chips are what type of food safety hazard?
13	3576	Oil and grease residue is what type of food safety hazard?
14	3577	Listeria Virus is what type of food safety hazard?
15	3578	A razor blade is what type of food safety hazard?
16	3579	A piece of plastic is what type of food safety hazard?
17	3580	Any type of bacteria is what type of food safety hazard?
18	3583	The weight of the carcass after an animal has been harvested is referred to as the what?
19	3584	What is the name of meat harvested from sheep older than one year of age called?
20	3585	The weight of the animal at the time of harvest is called what?
21	3586	What is the product after the animal is harvested called?
22	3587	When you calculate the carcass weight divided by the live weight times 100 you are calculating what?
23	3588	Who is responsible for safe handling of the animal product once they get it home?
24	3589	Who is responsible for cutting the carcass into primal and retail cuts for distribution?
25	3591	Who is responsible for raising a healthy animal?
26	3592	Who is responsible for following label instructions for using animal care products, or medications in the food supply continuum?
27	3593	What is the process of rendering the animal unconscious, draining the blood, and removing the head intestines and stomach as well as the hide and the shank of the animal called?
28	3594	Record keeping is vital when it comes to food (livestock) production. Producers should keep careful records of what activities?
29	3596	Cattle, sheep, and goats don't have front top teeth, just molars in the back

30	3600	What should be visible in the lower quarter of a steer when it is walking?
31	3603	Which of these is the best growth indicator found on market lambs and goats?
32	3616	What cattle breed is not typically used as a show steer?
33	3617	The brisket is (species specific) or found only on what animal?
34	3619	The ham is (species specific) or found only on what animal?
35	3620	The jowl is (species specific) or found only on what animal?
36	3623	When you ear notch a hog's right ear it denotes what?
37	3637	The lot number on a medicine label Identifies what?
38	3640	The part of the label that says "caution, or warning" tells you what?
39	3642	The active ingredient on a medicine label identifies what?
40	3644	On a feed tag, this alerts you to any special concerns that may create problems.
41	3645	On a feed tag, this identifies the species and class of animal for which the feed is intended to be used.
42	3646	On a feed tag, this is where you'll find the minimum and/or the maximum levels of essential nutrients.
43	3648	If you are medicating a steer and the label reads that you are to use 2 cc/100lbs. And the steer weighs 900lbs. How much medicine should you use?
44	3649	Your animal is diagnosed with foot rot and you treat it with over the counter medication approved for foot rot, which type of medicine use is being described?
45	3650	You decide to use a drug for pneumonia to treat your animal's ring worm without consulting a veterinarian, which type of medicine use is being described?
46	3651	The label says "administer only to lactating females" and your veterinarian says to give it to your three week old calf, which type of medicine use is being described?
47	3652	The label says to treat for five days. Your first treatment is Monday and you give the last shot on Friday, which type of medicine use is being described?
48	3653	You use a drug approved for chickens on your sheep without prescription from a veterinarian, which type of medicine use is being described?
49	3654	The label says to give 10cc and your vet says to give 20cc, which type of medicine use is being described?
50	3659	In the 6 C's of Success, the act or instance of selecting is referred to as?
51	3660	In the 6 C's of Success, the combination or qualities or features that distinguishes one person, group or thing from another is?
52	3661	In the 6 C's of Success, something, such as money that is given or received as payment is termed?
53	3662	In the 6 C's of Success, a schedule of events is called?
54	3663	In the 6 C's of Success, trust or faith in a person or thing is?
55	3664	In the 6 C's of Success, agreement or logical coherence among things is?
56	3665	How many levels of biosecurity are there?

57	3675	When you are showing your animal, it is important to be a good showman. Which of the following characteristics display good showmanship?
58	3680	Which of these is an internal developmental asset?
59	3681	Which of these is an internal developmental asset?
60	3700	What is not a skill that you should gain from exhibiting livestock?
61	3701	What is the average dressing percent for swine?
62	3702	Lamb's and goat's dressing percent is very close, at 53% and 55% respectively.
63	3704	You can legally change the instructions for using feed or feed additives if a vet tells you to.
64	3705	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except
65	3706	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except
66	3707	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except
67	3708	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except
68	3709	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except
69	3710	Each of these could be considered parts of a Hazard Analysis & Critical Control Points (HACCP) plan except
70	3711	All of this information is required on a medication label except
71	3712	All of this information is required on a medication label except
72	3713	All of this information is required on a medication label except
73	3714	All of this information is required on a medication label except
74	3715	All of this information is required on a medication label except
75	3716	All of this information is required on a medication label except
76	3717	All of this information is required on a medication label except
77	3718	All of this information is required on a medication label except
78	3719	All of this information is required on a medication label except
79	3720	All of this information is required on a medication label except
80	3721	All of this information is required on a medication label except
81	3722	All of this information is required on a medication label except
82	3723	All of this information is required on a medication label except
83	3724	All of this information is required on a medication label except
84	3725	All of this information is required on a medication label except
85	3726	All of this information is required on a medication label except
86	3727	All of this information is required on a medication label except
87	3728	All of this information is required on a medication label except
88	3729	All of this information is required on a medication label except
89	3730	All of this information is required on a medication label except
90	3732	From these choices what is the best route for injection medication

91	3733	From these choices what is the best route for injection medication
92	3734	From these choices what is the best route for injection medication
93	3735	All of this information is required on a feed label except
94	3736	All of this information is required on a feed label except
95	3737	All of this information is required on a feed label except
96	3738	All of this information is required on a feed label except
97	3739	All of this information is required on a feed label except
98	3740	All of this information is required on a feed label except
99	3741	All of this information is required on a feed label except
100	3742	All of this information is required on a feed label except
101	3743	All of this information is required on a feed label except
102	3744	All of this information is required on a feed label except
103	3745	All of this information is required on a feed label except
104	3746	All of this information is required on a feed label except
105	3747	All of this information is required on a feed label except
106	3748	All of this information is required on a feed label except
107	3749	All of this information is required on a feed label except
108	3750	All of this information is required on a feed label except
109	3751	All of this information is required on a feed label except
110	3752	All of this information is required on a feed label except